

**Health Care Marketing: The Theory of Planned Behavior Applied to Patients'
Choice between Private and Public Providers in the Portuguese Health Care
System.**

by

Filipa Monteiro Ferreira

Dissertation submitted in partial fulfillment of the requirements for the Degree of

Mestre em Estatística e Gestão de Informação
(Master in Statistics and Information Management)

Instituto Superior de Estatística e Gestão de Informação

da

Universidade Nova de Lisboa

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ABSTRACT

Purpose - The Portuguese health care system has been evolving throughout the last 35 years with two relevant facts: the public sector has progressed with improvement in all relevant OECD indicators; the private sector has been widened and reinforced.

In this framework, it is important to understand how patient's intention and behavior are built, so health care organizations in both sectors (public and private) can improve their health care provision (particularly in health care marketing), invest and develop those areas that might become sustainable competitive advantages.

The most established theory of social psychology explaining human behavior will be applied: Theory of Planned Behavior (TPB). Within this conceptual approach, attitude toward the behavior, subjective norm, perceived behavior control, habit and past experience evaluation (satisfaction on the private and public sectors) will be analyzed in explaining the intention to go to the private sector.

As the health care system is not homogeneous across the private and public sectors, five models will be tested in the areas that have been identified with distinct supplies: general practice, specialist consultation, emergency, ambulatory surgery and hospitalization.

Design/methodology/approach – 349 people completed a survey questionnaire that measured the constructs of the TPB. Factor analysis and hierarchical multiple linear regressions were used to test the model.

Findings – The results show that the models explained between 63% and 80% of the intention to go to the private sector. Attitude, subjective norm and habit were always significant predictors of intention in all models, past experiences evaluation (satisfaction) in the private sector was not.

Originality/value – This study contributes to understand intentions and behavior of patients that chose the private sector, instead of the public. It is a new applicability and extension of the TPB.

Keywords – Health Care System; Theory of Planned Behavior; Private and Public Health Care Sectors; Health Care Satisfaction; Intention; Behavior; Attitude; Subjective Norm; Perceived Behavior Control; General Practice; Specialist Consultation; Emergency, Ambulatory Surgery and Hospitalization;

RESUMO

Objectivo – O sistema de saúde português sofreu fortes transformações ao longo dos últimos 35 anos, destacando-se dois aspectos fundamentais: o sector público evoluiu registando melhorias nos principais indicadores da OCDE; o sector privado foi reforçado e alargado. Neste contexto, é importante compreender como é que a intenção e comportamento do paciente é construído para que as organizações de saúde possam melhorar a sua oferta (em particular no marketing da saúde), investir e desenvolver as áreas que se possam tornar vantagens competitivas.

Ir-se-á aplicar a teoria de psicologia social mais reconhecida internacionalmente que explica o comportamento humano: Teoria do Comportamento Planeado (TCP). Nesta abordagem conceptual analisar-se-á a atitude relativa ao comportamento, norma subjectiva, controlo do comportamento percebido, hábito e a experiência passada (resultante da satisfação no sector privado e no sector público).

Como o sistema de saúde não é homogéneo quanto ao fornecimento de cuidados de saúde no sector privado e no sector público, testar-se-ão cinco modelos referentes a áreas cujos sectores têm ofertas distintas: consultas de clínica geral, consultas de especialidade, urgências, cirurgia em ambulatório e internamentos.

Metodologia/abordagem – 349 pessoas responderam a um questionário que media as variáveis da TCP. Análise factorial e regressões lineares hierárquicas foram utilizadas para conduzir a análise.

Resultados/conclusões – Os resultados dos modelos permitiram explicar entre 63% e 80% da intenção de escolha do sector privado. Atitude, norma subjectiva e hábito foram em todos os modelos variáveis preditivas da intenção, enquanto a avaliação da experiência passada (satisfação) no sector privado nunca foi uma variável preditiva.

Originalidade/valor – Este estudo contribui para compreender como é que a intenção e comportamento dos pacientes são construídos quando estes escolhem o sector privado. Esta análise traz uma nova aplicação e extensão à TCP.

Palavras-chave – Sistema de Saúde; Teoria do Comportamento Planeado; Sector de Saúde Público e Privado; Satisfação em Saúde; Intenção; Comportamento; Atitude; Controlo do Comportamento Percebido; Consulta de Clínica Geral; Consulta de Especialidade; Urgência; Cirurgia em Ambulatório; Internamento;

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LIST OF ABBREVIATIONS

- ADSE – Public Subsystem for Civil Servants
- APS – Portuguese Association of Insurers
- ASM – Ambulatory Surgery Model
- EM – Emergency Model
- GP – General Practitioner
- GPM – General Practice Model
- HM – Hospitalization Model
- INSA – National Institute of Health, Dr Ricardo Jorge
- ISP – Insurance and Pension funds Supervisor Authority
- NHS – National Health System
- OECD – Organization for Economic and Co-Operation and Development
- PAI – Portuguese Association of Insurers
- PBC – Perceived Behavior Control
- SAMS – Private Banking and Associated Insurance Employees
- SCM – Specialist Consultation Model
- SEM – Structure Equation Modeling
- TPB – Theory of Planned Behavior
- TRA – Theory of Reasoned Action
- VHI – Voluntary Health Insurance
- WHO – World Health Organization

1. INTRODUCTION TO THE RESEARCH PROBLEM

1.1. Illustration of the Research Problem

The Portuguese health care system has suffered significant changes since the 1974 revolution. Within this more than 30 years period the health care system evolved positively. The public sector was strengthened by a continuous government investment in health care that resulted in a considerable improvement in all relevant OECD indicators. The private sector was widened and reinforced, in particular during the last decade, by the consolidation of major economic health care groups. The emergence of the health care insurance market also had a significant impact on the Portuguese health care system.

Before 1974, a person seeking medical assistance had very narrowed options, if any at all, mostly publicly provided. Nowadays, the health care supply is wide-ranging with public health centers, public hospitals, private medical offices, private clinics, and private hospitals among others.

Within this raising market, patients have a diversity of choices they can make that lead to different behaviors. As in any other market, it is important to understand how patient's intention and behavior are built, so health care organizations in both sectors (public and private) can improve their health care provision (particularly in health care marketing), invest and develop those areas that might become sustainable competitive advantages.

1.2. Goals of the Dissertation

Patient's choice is constructed differently in distinct health care markets. The characteristics of each market are likely to influence behaviors within that market. In the present study, patient's choice is analyzed in the Portuguese health care market.

Nearly twenty five percent of the Portuguese population benefit from an additional health care insurance coverage: health care subsystem and/or voluntary health insurance (Barros & Simões, 2007, p. xiii). Within this group of people, that have more than one health care insurance coverage, why do some people choose to go to public sector? Because they believe they will be better treated? Because they are not willing to pay more? Why do others choose the private? Because they believe that service quality is better? Not only is there a choice to be made, but the choice decision is about a very unique service: health care.

Public health care provision in Portugal has been improving; private health care has been growing. Is there competition between these two sectors? The introduction of private health care providers in the market is expected to induce a more patient-responsive and quality-driven health care provision (Owusu-Frimpong, Nwakwo & Dason, 2010, p. 206). Private sector is traditionally driven by profit. The introduction of rankings and new management¹ rules has shaken public sector conventional position.

The aim of this research is to understand how intention and behavior are constructed within health care provision in the private sector. By understanding what determines choice, both sectors will be able to invest and develop those areas that might become sustainable competitive advantages.

To conduct this analysis on human behavior and intention the most established theory of social psychology explaining the behavior of individuals will be used: The Theory of Planned Behavior (TPB) (Ajzen, 1985).

The application of the TPB will shed light on the impact of attitude-towards-the-private-sector, subjective norm and perceived behavior control, Ajzen's main variables, on the intention to go to the private sector. Habit, demographic variables and other health related variables will be tested with the purpose to analyze their impact in the prediction of intention to go to the private sector.

Service quality and patient's satisfaction will be added to the model as this conceptual approach has found support in the literature in predicting intention. The reasoning of this conceptual approach is that the happier patients are with their past experiences in the private sector the higher their intentions to go to the private sector.

¹ Since the 1990s new private management rules have been implemented in some public hospitals with public managers. The management of one public hospital (Hospital Fernando da Fonseca) was conceded to a private group (APS, 2009, p. 8).

On the other hand, the less happy patients are with their past experiences in the public sector the higher their intention to go to the private sector.

The Portuguese health care system is not homogeneous due to historical reasons, its nature and the development of some health care markets. For this reason it is very likely that intention and behavior will be built differently across some health care areas. General practice, specialist consultation, emergency, ambulatory surgery² and hospitalization will be studied separately as it is expected that the variables used to predict intention and behavior will differ across these models.

1.3. Relevance of the Research

Although the international literature is filled with applications of the Theory of Planned Behavior (Ajzen, 1985) to health care behaviors, there is a gap in the use of this theory to private/public intention and behavior within the health care market. Therefore, this thesis will contribute to the scientific international research by introducing a new application of the TPB.

It will also have a significant contribution with the extension of the TPB by including past experiences evaluations as predictors to intention and behavior. This extension aims to bring to the model the service quality and patient's satisfaction framework.

There are also several studies in the international literature that compare the private and the public provision of health care in terms of satisfaction, but none of these studies were done under the perspective of what determinates behavior and intention.

Naturally, this study was constructed under the Portuguese health care system, which has been evolving and suffered a significant transformation in the last 35 years. This study is relevant as there is not much research done in understanding behaviors in the Portuguese health care reality and might help to determinate strategies for the future

² Ambulatory surgery is a surgery without hospitalization.

of each sector in the health care as this market continues to evolve and is very likely that will suffer severe changes in the near future.

This study also has international relevance as there are many other health care systems (mainly in Europe) that have similar structures and organizations, i.e. countries with national health systems (such as Spain and UK) and therefore might benefit and learn with the conclusions of this research project.

1.4. Dissertation Structure

This research project is structured in six chapters, six appendixes and one annex. Chapter I introduces the research problem, exposing the context, the purpose and relevance of the study.

Chapter II is an overview of the Portuguese health care market. The private and the public sector are analyzed separately and conjointly as integrating parts of the whole health care system. The specificities of the health care market are highlighted.

Chapter III reviews the conceptual framework. This chapter assesses two distinct behavior theories: the theory of planned behavior and the service quality and patient's satisfaction framework.

Chapter IV outlines the research methodology. It explains the research method (questionnaire), characterizes the participants and the procedures, identifies the variables that were measured and describes the data analysis steps.

Chapter V presents the results and discussion for each of the five models analyzed: general practice, specialist consultation, emergency, ambulatory surgery and hospitalization.

Finally, chapter VI draws the conclusions; highlights the theoretical, societal and managerial implications of the research; identifies limitations of the study and presents future research paths.

2. LITERATURE REVIEW: THE PORTUGUESE HEALTH CARE SYSTEM

2.1. The Public Health Care Sector

The Portuguese National Health Care System (NHS) was created in 1979, based on the 64^o article of the 1976 Portuguese Constitution, following the 1974 carnation revolution. According to that law, the system was developed with the purpose to deliver universal, comprehensive and free access to health care (Barros, 2005, p. 29). Before this milestone, access to health care assistance was restricted and significantly low (Ribeiro, 2009, p. 21)

Since 1970, total expenditure on health care as a percentage of gross domestic product has been growing (graphic AP1.1, appendix 1). It increased about eight percentage points (from 2.5% in 1970 up to 10% in 2006), a figure higher than the OECD average, that reveals an increasing perception of importance of health care in the society. Total expenditure on health per capita (US\$ purchasing power parity) has the same growing pattern, but more intense (graphic AP1.2, appendix 1). During the last 35 years the total expenditure per capita increased 44 times. In 2006, it reached \$2,151 even though it was below the OECD average. These increments represented investments in human, material and financial resources that together with a general improvement of the socio-economic conditions, contributed to an improvement of the health care system (Barros & Simões, 2007, p. 6).

All general health indicators show improvements regarding health quality of the Portuguese population: Life expectancy increased significantly for both men and women at birth and at age 65 years, coming very close to the average of OECD countries (graphics AP1.3, AP1.4, AP1.6 and AP1.7, appendix 1). Infant mortality, decreased significantly from 55 to approximately 3 infant deaths per 1000 live births (graphic AP1.5, appendix 1), a remarkable figure below the OECD average.

The government vaccination compulsory plan that generally covered all the population, and has been continuously widened, is a very important measure that contributed significantly to the improvement of national public health (Ribeiro, 2009, p.

72). The percentage of children immunized increased significantly since the early 1980s (graph AP1.8 and AP1.9, appendix 1).

Naturally, behind the general improvement of health care indicators, there was an increase of the health care public activity. Ribeiro (2009, p. 84) highlighted that since the 1980s there was a significant increase in the number of hospitalizations, surgeries and childbirths in hospitals. Emergencies also grew considerably until the 1990s but have stabilized since then.

Health care public provision is particularly strong in primary care (general practice and mother and child care) and hospital care with a gate keeping system to access hospitals (Barros & Simões, 2007, p. xiii). Primary care gatekeepers (general practitioners – GP in health centers) refer patients to secondary care provided by medical specialists (in hospitals). Patients should choose their NHS GP from a list distributed by the Ministry of Health. However this is not a perfect system as access to emergency services has been mainly unrestricted with some people directly accessing public hospitals and due to the fact that some local supply of GPs restricted patients' choice (Oliveira & Pinto, 2005, p. S204).

Although the NHS has been improving there are still some issues to be solved, such as waiting lists. At the end of 2007 a patient that needed to attend a specialist consultation in a public hospital would have to wait, on average, six months. For any first specialist consultation in a public hospital the waiting average would be even higher: nine months (Ribeiro, 2009, p. 51). The waiting list for surgery procedures is also problematic. Another relevant difficulty is the insufficient public provision of some services, such as dental care and physiotherapy (Oliveira & Pinto, 2005, p. S206). The NHS also faces other problems such as: inadequate ambulatory services (with high use of hospital emergency departments); increase demand for health care from vulnerable groups; difficulty to control costs with the increase on health expenditure; opposite results regarding customers and professionals satisfaction with the public service; and difficulty to reduce mortality due to traffic accidents and lifestyle related diseases (Barros & Simões, 2007, p. 17).

2.2. The Private Health Care Sector

Alongside the evolving public sector, the private sector has always existed in Portugal, mainly in ambulatory health care and in some hospitals. Some medical specializations had had significant private provision such as dentists, radiology and imaging. Laboratory tests and pharmaceutical products were also privately provided (Barros & Simões, 2007, p. 17).

The private health care demand in the past has been associated with the search for better comfort in hospitalization, quicker response to patients that needed surgery and more convenience to access quality laboratory test results (Ribeiro, 2009, p. 45).

The private sector started from one unstructured market with small individual medical offices to become an organized market controlled by the major economic powers that manage big medical facilities, where most workers are wage-earning employees (APS, 2009, p. 10).

During the last decade, private health care provision has been reinforced and widened due to the opening of some big private hospitals. *Hospital da Luz* in Lisbon of *Espírito Santo Saúde* (results of 220,000,000€ in 2009), currently the biggest Portuguese private hospital, opened in April 2007. With 280 physicians and staff workers and 150 beds, made 70,000 emergencies, 5,000 surgeries and had 6,200 patients hospitalized in its first year of activity (Baptista, 2008); *HPP Saúde* (results of 150,000,000€ in 2009) other major healthcare group, that recently opened in May 2008 the *Hospital dos Lusíadas* in Lisbon (160 beds, 60 consult rooms, 8 operation theater and 3 delivery rooms), and in June 2008 the *Hospital da Boavista* (160 beds, 36 consult rooms, 7 operation theaters and 2 delivery rooms) in Porto; *Mello Saúde* has more than 65 years of history and is currently the biggest private healthcare group in Portugal in supplying and managing healthcare assistance (results of 265,000,000€ in 2009). It recently opened in June 2010 the biggest private hospital of the north of Portugal: *HospitalCuf Porto* which represented an investment of 90,000,000€. In the Lisbon area, *Mello Saúde* has three main hospitals: Hospital Cuf Infante Santo, Hospital Cuf Descobertas and Clínica Cuf Cascais.

Mello Saúde, *HPP Saúde* and *Espírito Santo Saúde* are the three biggest healthcare group suppliers in Portugal and represent 70% of the private market. *Trofa Saúde* and *AMI – Assistência Médica Privada* are also relevant (but in a smaller scale) healthcare providers in the private market. These five health care groups have 64 health facilities: hospitals, clinics, rest houses and laboratories. In total, the private sector holds 5,000 beds and 25% of the surgery capacity of the whole health system (Privados asseguram, 2010).

According to Barros and Simões (2007, p. 27) the private sector continued to prosper despite the establishment of the NHS. The private supply mostly provides diagnostic, therapy, dental care, a few ambulatory consultations, rehabilitation and psychiatric care services, but the strongest area of the private supply is the specialist consultation. Patients with not too serious conditions and/or financial appropriate resources may opt for private practice specialist in ambulatory care. The National Health Inquiry 2005/2006 (INSA, 2007) stated that 31% of all medical consultations in ambulatory care were privately supplied.

More recently, *Jornal de Negócios* (Privados asseguram, 2010), a local reference economic newspaper, published in September 2010 that according to the Portuguese Association of Private Hospitalization 40% of the healthcare market was privately supplied. The private healthcare market had 50% of specialist consultations, 25% of the hospitalizations, 5% of emergency assistance and 15% of beds.

Even though there are no exclusions to the NHS, the percentage of consultations supplied privately in each medical specialization area is very different: dentists 92.1%, gynecology 67.6%, ophthalmology 66.9%, cardiology 54.2%, orthopedics 45.5%, pediatrics 31.1% and general practice 17.1% (APS, 2009, p. 11).

The key agents in the private sector are the private practitioners, clinics, hospitals and the *Misericórdias* (non-profit driven independent institutions that aid the sick and the poor).

2.3. The Health Care System

The Portuguese health care system is characterized by the co-existence of three systems: (a) the National Health System (NHS); (b) health subsystems, special social health insurance schemes for certain professions (both private and public); and (c) voluntary private health insurance (VHI) (Allin et al., 2004, p. 41).

Barros and Simões (2007, p. 13) acknowledged that the Portuguese Health System is a network of public and private health care providers that are linked with the Ministry of Health and to the patients in their own specific ways (figure AN.1, annex).

Besides the improvement of the public health system and the continuous increase of health care private supply, the development of health subsystems and the emergence of private health insurance companies contributed to the transformation of the Portuguese health care system.

The majority of the health subsystems is associated with professional or occupational category (Barros & Simões, 2007, p. 26) such as ADSE (public subsystem for civil servants), SAMS (private banking and associated insurance employees), PT-ACS (private telecommunications operator), among others. These are mainly funded by employee and employer contributions (including state contributions as an employer) and usually represent comprehensive or partial health care coverage (Barros & Simões, 2007, p. 35). The health subsystems provide protection mechanisms in sickness that are an extension of the NHS and currently protect 20% of the Portuguese population (APS, 2009, p. 9).

The National Health Inquiry 2005/2006 (INSA, 2007) reported that around 16% of the population was covered by health subsystems, 10% covered by Voluntary Health Insurance (VHI) and less than 2% had both covers: VHI and health subsystems.

VHI started in 1978 with group policies only. Later, in 1982 VHI individual policies were available. According to the Insurance and Pension Funds Supervisor Authority (ISP), in 2009 the number of individuals with health care insurance was 1,013,714 and the number of individuals with group health insurance was 1,051,010. Both figures have been increasing during the last years (ISP, 2009, p. 126), but according to the Portuguese Association of Insurers (PAI) the biggest integration of the health insurances in the society occurred in the middle of the 1990s (APS, 2010, p. 3).

The private sector has an increasing interest in health insurances and work accidents as they receive a significant number of patients from private health insurances such as *Médis*, *Multicare* or *AdvanceCare*. The private health sector and the private health insurances are natural business partners as the public sector does not allow access discrimination or differentiated treatment (Ribeiro, 2009, p. 182). It is very common that VHI policies are one year period contracts that tend to be selective and not comprehensive. On one hand, companies can renew or cancel the policies at their own will and on the other hand, health insurances often try to exclude the elderly as this age group is associated with increasing health costs, higher risk and lower income (APS, 2009, p. 9).

Barros and Simões (2007, p. 28) argued that people could benefit from triple (or more) coverage: NHS, professional health subsystems, VHI and some other health subsystems that was an extension of their spouse's coverage.

The financing of each health cover type might be quite different:

1. NHS: Universal coverage. Government funding through general taxation.
2. Public health subsystems: Occupation-based health insurance. Individual compulsory contribution based on income. Direct and indirect government funding.
3. Private health subsystems: Occupation-based health insurance. Individual compulsory contribution based on income. Company funding and direct and indirect government funding.
4. Voluntary private health insurance (VHI): Individual-based health insurance. Individual voluntary contribution based on the risk. Direct and indirect government funding.

The health care providers can be either public or private. Each one has its own agreement with respect with their financing flows, ranging from historically based budgets to purely prospective payments. Out-of-pocket (OOP) payments are a large part of the financial flows.

Between 2000 and 2008, the public health expenditure represented on average 68.2% of the total expenditure (figure AN.2, annex). Although it is by far higher than the private health expenditure, the public health expenditure has been growing at a slower annual rate (4.6%) than the private (6.5%) health expenditure rate (INE, 2010a,

p. 27). For the same period, the total expenditure on health by source of revenue is led by the NHS that accounts for more than 50% of the expenditure, followed by families that are responsible by 26.8% (figure AN.3, annex). During this eight-year period analysis the NHS as a source of revenue has been decreasing, and the families' proportion has been increasing. 94% of the families' expenditures are private health care suppliers: ambulatory health care (37.4%), pharmacies (32.4%), private hospitals (12.7%) and other retail of health goods and/or services (INE, 2010a, p. 28) (figure AN.4, annex).

In Portugal there are 189 hospitals, 92 of which are public and 97 are private (most of the private hospitals are profit-driven organizations). This is a recent change in the Portuguese health care system, as until now the public hospitals accounted for the biggest proportion (Ribeiro, 2009, p. 96). Lisbon and North are the regions where there is more concentration of hospitals and as a consequence, more equipment, in-patient flow and personnel employed (table AP1.1, appendix 1).

Barros and Simões (2007, p. 79) showed that the number of physicians and nurses has been increasing since 1990. Although the number of physicians is already above the EU average, the number of nurses is still below. Again, the number of physicians and nurses per 1000 inhabitants is higher in Lisbon and North regions (table AP1.2, appendix 1).

One relevant and interesting aspect of healthcare provision (in terms service quality of professional and technical care) is that it is conjectured that half of the salaried doctors of the public sector (NHS) also work in the private sector (Barros & Simões, 2007, p. 59) and it is not uncommon that nurses work in both sectors as a way to increase their income, but also due to scarcity of resources in both sectors (Barros & Simões, 2007, p. 60).

2.4. Health Care Economic Market

The health care market is very different than any other market in the economy due to its specificities. Medical care is a service and as such is often intangible, it involves the customer in the “production” process and it is simultaneously produced and consumed. It is the result of a direct provider-client interaction: physician – patient (Singh, 1991, p. 224). The provider is simultaneously the prescriber and against the reality of many other markets it is not the customer who makes the decisions (Ribeiro, 2009, p. 20).

Folland, Goodman and Stano (2010, p. 36) identified the critical factors that distinguished health care as a unique market: presence of **uncertainty**, prominence of **insurance**, problems of **information**, the role of **nonprofit companies**, restrictions on **competition**, role of **equity and need** and **government subsidies and public provision**.

Uncertainty is present in health care in many different ways. There is uncertainty to when health assistance will be needed; uncertainty of how much the health assistance will cost; uncertainty about the health condition; uncertainty on the adequate treatment; uncertainty about the effectiveness of the health treatment. Kenneth Arrow (1963) was the first to argue that the uncertainty of the health care market was such that naturally there would not exist a health insurance market that would cover all the health care risks. As a consequence of this high level of uncertainty, there is room for the appearance of insurances mechanisms (either public or private). The emergence of health insurance diminishes the uncertainty level of the individuals but also becomes an additional intervenient in this market (Barros, 2005, p. 25). The fact that there is a third-party involved (NHS, health subsystem or VHI) that pays partially (or completely) the health cost (Ribeiro, 2009, p. 20) is another specificity of this market.

Because of the uniqueness of health care as a service provision, understanding patient’s behavior and choice might be very different from any other kind of service provision. Taylor and Cronin Jr. (1994, p. 40) stated that health care is often characterized by the fact that its consumers lack the capacity to adequately evaluate the performance of the providers. This is because, most times, patients do not have the level of knowledge nor the necessary information to make informed evaluations.

The World Health Organization (WHO) defined health literacy as “the cognitive and social skills which determine the motivation and ability of individuals to gain

access to, understand, and use information in ways which promote and maintain good health”. According to Ishikawa and Yano (2008, p. 115) this is a broader definition that goes beyond the traditional general comprehension of health information to include social skills to interact with people and society (communication, negotiation and organization) that are required to make decisions and put them into practice.

This highlights another critical factor present in health care market that is a consequence of uncertainty: **information asymmetry**. It occurs when, in an economic relationship, one party has more or better information than the other (Barros, 2005, p. 25).

A consequence of information asymmetry is **adverse selection**. This problem was first identified by George Akerlof (1970). It generates inefficiencies and market distortions. An example is the relationship between an insurance company and an individual, where the risk is the main reason for insurance. Naturally few people have knowledge of their future expenditures. If the lower risks are grouped with the higher risks and all individuals pay the same premium, the lower risks face unfavorable rates and will tend to underinsure. In this case, these individuals uphold a loss because they ought to pay a rate appropriated to their risk. On the other hand, the higher risks will be paying a very favorable premium and therefore over insure. This results in the insurance of risks that would never be insured in the first place (Folland, Goodman & Stano, 2010, p. 217).

Although the health care market deals with the presence of agents that do not have the goal of profit maximization, it is reasonable to accept that they are rational economic agents that have their own goals. The economical analysis is perfectly compatible with the existence of these other goals (Barros, 2005, p. 26).

Some of the established practices of the health sector effectively restrict competition: licensure requirements for providers, restrictions on provider advertising and standards of ethical behavior that instruct providers not to compete with each other (Folland, Goodman & Stano, 2010, p. 38).

In the health care market there is a strong presence of ethical judgments. The most important one is the principle that no one should be deprived of medical assistance if needed based on financial conditions (Barros, 2005, p. 26).

In most countries the government plays a major role in the provision of health services. In Portugal the public provision is done through the NHS and, as it was stated above, it accounts for almost 70% of the total national health care spending.

Taylor and Cronin Jr. highlighted (1994, p. 42) that health services is highly involving and has a risky nature. This implies that some theories and scales (such as SERVQUAL or SERVPERF) can only be applied to health care with cautious analysis otherwise problems might occur (Gooding, 1995, p. 25).

3. CONCEPTUAL FRAMEWORK

3.1. Review of the Theory of Planned Behavior

Consumer behavior was defined by Solomon, Bamossy, Askegaard and Hogg (2006, p. 6) as “the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs or desires”. According to the authors, consumer behavior as a field of study progressed from a buyer behavior where the focus was on the interaction between consumers and producers at the moment of purchase to an ongoing process that goes beyond it, affecting the entire consumption process including all that might influence the consumer before, during and after the purchase.

The Theory of Planned Behavior (TPB) (Ajzen, 1985) is the most established and extensively studied theory³ of social psychology explaining the behavior of individuals. It is extremely important to understand intention and behavior change (Hardeman, Johnston, Johnston, Bonetti, Wareham & Kinmonth, 2002, p. 124).

The TPB will be used in this study to understand consumer’s intention and behavior to go to the private sector in the health care system. As highlighted before, health care is quite a unique service that involves risk which makes health care decisions complex.

Ajzen’s Theory of Planned Behavior (1985) states that the **intention** to perform a specific behavior is the main determinant of that **behavior**. Intentions are assumed to aggregate the motivational factors that influence a behavior (Ajzen, 1991, p. 181).

The theory identifies three major factors that predict intention:

1. **Attitude-toward-the-behavior** reflects the behavioral beliefs which are a favorable or unfavorable evaluation of the behavior.
2. **Subjective norm**, related with the normative beliefs, is the perceived social pressure to perform or not to perform the behavior.
3. **Perceived behavior control** (PBC), consequence of control beliefs is the perceived capability to perform the behavior.

³ According to Stone, Jawahar and Kisamore (2009) Ajzen’s web site tracked 56 theory and review papers and 690 empirical papers studies using the TPB.

This last factor is accepted to reflect previous experiences, obstacles and impediments that are expected to occur (Ajzen 1991, p. 188).

The source of the attitude, subjective norm and PBC are corresponding beliefs that translate the underlying cognitive structure (Armitage & Conner, 2001, p. 474), as it is depicted in the figure below.

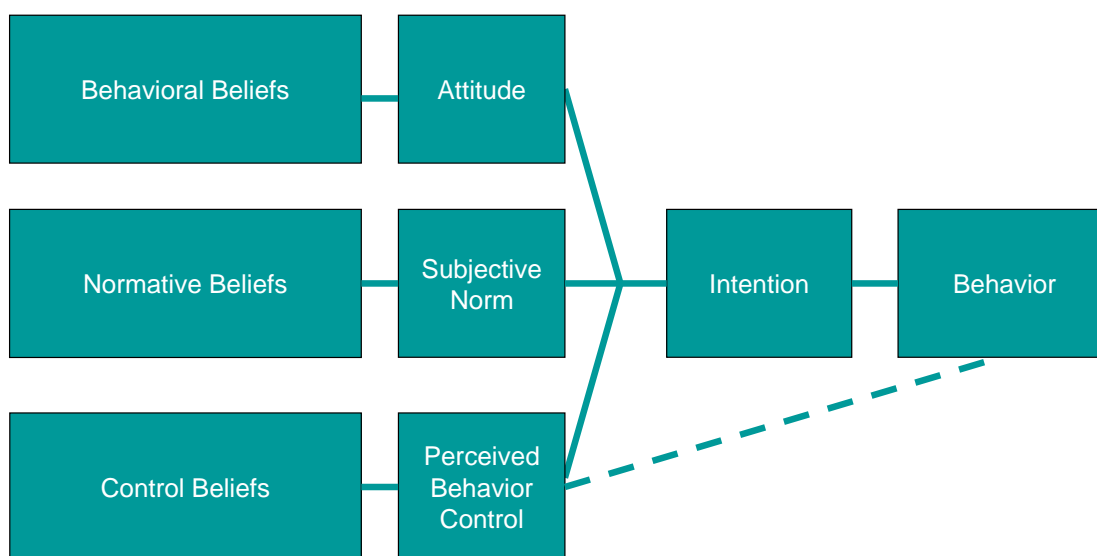


Figure 3.1 Theory of Planned Behavior.

Source: From intentions to actions: A theory of planned behavior (Ajzen, 1985).

The relations between behavior beliefs and attitude-toward-the behavior, between normative beliefs and subjective norm and between control beliefs and perceived behavior control are based on the expectancy-value models. The Fishbein and Ajzen's (cited in Ajzen, 1991, p. 191) expectancy model (1975) states that attitude is the result of the product between the strength of each salient belief and the subjective evaluation of the belief's attitude.

Forward (2009, p. 199) highlighted that Perceived Behavior Control is determined by control beliefs that are a consequence of control beliefs strength, which are the perceived probability of a given factor being present and control belief power that measures the impact of the factors to facilitate or prevent the performance. These are called indirect measures of Perceived Behavior control and have not received much attention in the literature.

Although the TPB focuses on the subjective psychological determinants, i.e. behavioral, normative and control beliefs, it does not exclude the impact of demographic, environment and personal characteristics. These are considered background variables that can influence behavior through an indirect effect on the beliefs (Ajzen & Manstead, 2007, p. 47).

Ajzen and Cote (2008, p. 302) stated that the TPB considers human action to be reasoned or planned because people consider the behavior's probable consequences, the normative expectations of key people and the easy or difficulty to perform a behavior, i.e. the beliefs. Behavior, normative and control beliefs are followed instinctively and reasonably to produce attitudes, subjective norm and PBC. In turn, these originate the behavioral intention that eventually conducts to the behavior.

The literature on the PBC construct is not consensual. Some authors (Armitage & Conner, 2001, p. 476) defended that PBC has two dimensions, one associated with self-efficacy and another related to perceived control. Jackson, Smith and Conner (2003, p. 120) described perceived control to occur when a behavior is considered to be under the individual's voluntary control. The authors stated that self-efficacy is the perceived difficulty or ease of performing the referred behavior. Although Ajzen (cited in Jackson, Smith and Conner, 2003, p. 120) recognized that perceived control and self-efficacy are two constructs of PBC, he did not agree that these two dimensions were independent.

The three constructs of the TPB predict with high accuracy intentions to perform behaviors of different natures. Ajzen (2002, p. 1) argued that in general, the more favorable the attitude and subjective norm and the greater the perceived control, the stronger would be the person's intention to perform a particular behavior. Besides intention, PBC can also predict behavior directly whenever perceived behavior control matches actual control.

The TPB is an extension of the Theory of Reasoned Action (TRA) that Ajzen and Fishbein developed in 1980. The TRA was mostly efficient explaining and understanding behaviors that were totally under volitional control, i.e., behaviors where the individuals had the power to choose freely and make their own decisions without any constraints on action. Behaviors that require opportunities, resources (e.g., time,

money) or skills that are presently deficient are behaviors where the individuals have lack of control (Godin, Valois, Lepage & Desharnais, 1992, p. 1336).

Intuitively, one can conclude that health care decision behavior is not completely under volitional control. It often involves the opportunity to have access to it (whether health care provision exists nearby or not), money resource (in particular for private health care), time resource (namely translated in waiting lists in the public sector but that can also occur to a lesser extent in the private sector) and skills that allow people to make the best informed health choice (which may be deficient in a market characterized by information asymmetry).

The TRA was broadened to the TPB by including the PBC construct that allowed the prediction of behaviors that were not under complete volitional control. The PBC gives information about the potential constraints on action as perceived by the individual and is held to explain why intentions do not always predict behavior (Armitage & Conner, 2001, p. 472).

Ajzen argued (1991, p. 186) that when behaviors pose no serious problems of control, they can be predicted from intentions with considerable accuracy. Whereas when control decreases, the stronger is the impact of perceived behavior control.

The TPB model has been applied in a variety of studies. The results of meta-analysis studies found that attitude and subjective norm are held to predict between 33% and 50% of the intention. Adding PBC to the model leads to an improvement of 5% up to 12% in the explaining capacity of the model (Forward, 2009, p. 199).

Armitage and Conner (2001) found that across the 185 independent studies published until the end of 1997, intention and PBC accounted for 27% of the model's explaining capacity of behavior.

3.2. Applications and Extensions of the Theory of Planned Behavior

The TPB has been largely used to predict and explain health care behaviors. Ajzen and Manstead (2007, p. 45) highlighted that the TPB has been applied successfully and

with substantial conclusions for understanding behaviors in very different health related behaviors such as exercising, blood donation, adherence to low-fat diet, using condoms for AIDS prevention, using illegal drugs, wearing safety helmet and many more.

Hardeman, Johnston, Johnston, Bonetti, Wareham and Kinmonth (2002) have done an extensive review on the TPB applicability on health behaviors like smoking, sexual behavior, exercise and food choice. The authors argued that the goal of some studies was the identification of key beliefs that could be targeted through a persuasive message. This process would be three-fold (Hardeman, Johnston, Johnston, Bonetti, Wareham & Kinmonth, 2002, p. 124):

1. Identification of relevant beliefs from a sample of the target group;
2. Construction of a questionnaire to understand which beliefs differentiate intenders from non-intenders and to identify the relative contribution of the attitudinal or normative component;
3. Design intervention to change key beliefs identified.

Besides the various applications of this social psychology theory to many different research areas, several extensions of the theory have been tested.

Past behavior and habit have been widely used in the literature. This is because some studies showed that past behavior is the best predictor of future behavior (Conner & Armitage, 1998, p. 1436). Habit is a behavior that has been performed so many times that it becomes automatic, independent and difficult to change (Umeh & Patel, 2004, p. 28). Ajzen argued that both new behaviors and regular behaviors are a result of the TPB variables and model. Even though new behaviors are more deliberately built and regular behaviors more automatic, they are both the result of the theory of planned behavior constructs.

Literature supports the impact of habit and past behavior on intention. Godin, Valois, Lepage and Desharnais (1992, p. 1338) found that habit did not significantly increase the prediction of intention, but it was the predominant predictor of behavior in their study on predictors of smoking behavior. However, Forward's (2009, p. 205) study on predicting drivers intentions to violate, accomplished that past behavior significantly added explaining capacity to predict intention.

Godin (1993, p. 152) applying the TPB to the promotion of exercise concluded that intention and past behavior were the two important factors for the prediction of

behavior. These two variables (motivation and behavior) could be the source to the construct of five stages in the process of adherence to exercise.

Conner and Armitage (1998, p. 1452) reviewed the studies that supported the extension of the TPB by the inclusion of new variables such as: belief salience, past behavior/habit, the structure of PBC construct, moral norms, self-identity and affective beliefs depending on the nature of the behavior and the purpose of the study.

The study of Jackson, Smith and Conner (2003, p. 131) supported the inclusion of moral norm, self-identity and past behaviors as predictors in physical activity intentions. This study supported the idea that once a behavior becomes usual, future behavior will occur based on “automatic cognitive processes” instead of the “rational decision processes” of the TPB.

Forward (2009) extension of the TPB also tested descriptive norms. These measure the individual’s beliefs about other people’s behavior. Opposed to subjective norms which are something that people ought to do, descriptive norms are something that was effectively done. The author proved this variable to be significant in the prediction of drivers’ intentions to violate.

Demographic variables have also been tested in the literature. Drug use studies found that age and gender were significant predictors (Umeh & Patel, 2004, p. 28). Forward (2009, p. 206) also proved that the addition of demographic variables increased drivers’ intentions to violate rules.

3.3. Service Quality and Patient’s Satisfaction Framework

Determinants of health care choice, as any other consumer behavior, involves firstly the awareness of the need for the service, its availability and collecting information about the alternatives (Ajzen, 2008, p. 527). A patient who has the need to consult a physician will analyze the information to make a decision. The information might result from previous medical experiences, just as consumers use feedback from purchasing experiences to evaluate their decisions. Previous medical experiences

(public or private) might influence future decisions: a satisfied patient might go back, a dissatisfied patient might not. As so, it is relevant to understand what satisfaction is and how it is constructed in health care.

Kotler and Keller (2009, p. 164) used a general definition of satisfaction as “a person’s feelings of pleasure or disappointment that result from comparing a product’s perceived performance (or outcome) to their expectations”. Satisfaction would occur, therefore, when performance meets or exceeds expectations.

Singh (1991, p. 225) argued that consumer’s satisfaction in health care delivery may be conceptualized as a cognitive evaluation of a wide range of attributes of the care received, in addition to an overall emotional disposition, during a particular episode of health care services. The author (Singh, 1991, p. 227) identified three entities that play a determinant role in patient satisfaction: physician (high contact), hospital (moderate contact) and insurance (low contact).

John (1992, p. 56) understood patient satisfaction more closely to the general consumer’s satisfaction because he conceptualizes satisfaction as a variable that depends on expectations. He argued that satisfaction in health care is an attitude, i.e., an emotional response that is the result of the disconfirmation or confirmation of the patient’s expectations.

The role of expectations in patient’ satisfaction has conflicting evidence in the literature. Taylor and Cronin Jr. (1994, p. 41) suggested that expectations failed to demonstrate a consistent direct relationship with either patient satisfaction or disconfirmation. Nevertheless, these researchers argued that expectation should not be dropped off the decision model, because they might play an indirect role in the consumer perception of service quality and satisfaction.

Service quality is closely related with satisfaction. Kotler and Keller (2009, p. 169) used the customer-centered definition of quality from the American Society for Quality Control: “quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs”.

Service quality has two dimensions in the literature, the technical dimension, which holds the core service provided and the functional dimension, how the service is provided (Choi, Cho, Lee, S., Lee, H. & Kim, 2003, p. 914).

Quality assessment in health care has different view points. Physicians may argue that patients are subjective or do not have the necessary knowledge to assess quality. But some authors as Kotler and Keller (cited in Owusu-Frimpong, Nwankwo & Dason, 2010, p. 204) argued that in a consumer-centered environment where health care organizations are patient-centered, the patients should be the judges of health quality assessment. If the health care market is patient-centered, physicians and health care practices become *commodified*. Patients, as consumers in any other market that choose between goods and services, will choose between doctors and services (Owusu-Frimpong, Nwankwo & Dason, 2010, p. 204).

As patients usually do not possess the necessary skills and knowledge to evaluate technical aspects of health care, they will focus on nontechnical process-related dimensions such as patient-physician relationship and the environment where the service takes place (Choi, Cho, Lee, Lee & Kim, 2003, p. 914). Delivering high quality health care is becoming insufficient as patients desire courtesy, compassion, empathetic nurses comfortable rooms and choice of food (Angelopoulou, Kangis & Babis, 1998, p. 14).

Even though the choice reasoning for patients is the same as customers in other markets, the uncertainty characteristic of the health care market differentiates them. Patients are likely to be worried about the outcome of a treatment, the best treatment choice and even the seriousness of the underlying condition (Angelopoulou, Kangis & Babis, 1998, p. 14).

Service quality assessment has been widely studied in the literature. Donabedian (1980) suggested that satisfaction measurement should be a structure-process-outcome model that would assess “good care” by evaluating components of health care such as equipment, operation theaters, rooms, personnel, organization of care and technical health care delivery (Gupta, 2008, p. 20). Parasuraman et al’s SERVQUAL (1988) is a fundamental service quality measurement that has been frequently used in the literature. SERVQUAL is a generic multi-item measure that included tangibility, reliability, responsiveness, assurance and empathy dimensions (Owusu-Frimpong, Nwankwo & Dason, 2010, p. 206).

Jun, Peterson and Zsidisin (cited in Gupta 2008, p. 21) found 11 dimensions that define quality of care and patient satisfaction:

1. Tangibles (appearance, process, cleanliness)
2. Courtesy (attitude, privacy, professionalism)
3. Reliability (constancy – equal treatment, billing accuracy)
4. Communication (technical complexity explained, interaction, time spent)
5. Competence (education, expected good, continual improvement: measurable and empowerment)
6. Understanding customer (patient, physician)
7. Access (visibility, convenience)
8. Responsiveness
9. Caring
10. Patient outcomes
11. Collaboration (teamwork, synergistic package, internal and external to hospital)

Gooding (1995, p. 26) studied the concept of sacrifice (together with quality and value) in the decision of hospital choice. The researcher argues that for major treatment, quality is more important however, in minor treatments sacrifice (monetary among others) assumes more importance. In this model, perceived quality and value choice are based on:

1. Level of technology
2. Ranges of services
3. Staff competence
4. Quality of medical care
5. Courtesy of staff
6. Price access
7. Reputation
8. Concern of pro staff
9. Emerging care
10. Confidentiality
11. Building condition
12. Hospital size
13. Dependability
14. Past Experience

15. Advertising

The perception of value in hospital choice uses the indicated constructs for quality perceptions between two alternative hospitals. The concept of sacrifice perceptions appears associated with travel time/ distance and out-of-pocket costs. Sacrifice, in the patient's perspective might result from two costs' type (Choi, Cho, Lee, Lee & Kim, 2004, p. 915): monetary costs (the price that the patient has to pay) and nonmonetary costs (time spent, mental and physical stress experienced in the health care episode).

Marketing in health care has the aim to achieve satisfied and loyal patients. The demand for a service, a product or an organization such as hospitals (private or public) is generated by three mechanisms (Fisk, Brown, Cannizzaro & Naftal, 1990, p. 5):

1. Repeat use by past clients.
2. Word-of-mouth recommendation from established users to new users.
3. Attraction of new users by marketing communications.

These mechanisms might influence health care choice in the sense that they might reflect partially the three components of the Ajzen's Theory of Planned Behavior (1985). Attraction by marketing communications might influence behavioral beliefs and attitude. Word-of-mouth recommendations might be related to normative beliefs, in the sense to what extent do recommendations influence patient's choice. Finally, repeat use by past clients might be linked to control beliefs. Naturally this mechanism is strongly related to the previous satisfaction analysis (on the basis that a customer only repeats one experience based on its satisfaction and not otherwise).

Doctor-patient loyalty building process depends, on the patient side, on commitment, trust and satisfaction with medical service provider. On the doctor's side it depends on doctor's reputation (Torres, Vasques-Parraga & Barra, 2009, p. 185). Doctor reputation is based on other people's experiences information with a doctor. In fact, Mechanic and Meyer (cited in Torres, Vasquez-Parraga & Barra, 2009, p. 186) found that family and friends recommendations are often the starting point of medical relationships, strongly relating trust with reputation.

Fisk, Brown, Cannizzaro and Naftal (1990, p. 14) highlighted that patient loyalty must be pursued systematically. Patient loyalty is built based on an integrated system

that uses patient survey methods, commitment to service, attention to complaints and formal guests' relations programs. These tools alone have limited power.

There are several studies in the literature comparing public and private hospital care (Taner & Antony, 2006; Jabnoun & Chaker, 2003; Camilleri & O'Callaghan, 1998) in particular, in measuring service quality within both sectors. Although most studies are done for specific countries and their health care systems, it is worth analyzing them. Even though the aim of this study is to understand how choices are made between both sectors (to go to the private and therefore not going to the public sector), it is relevant to understand if there is a common background in the studies comparing public and private sector.

Camilleri and O'Callaghan (1998) developed a study in Malta, using Donabedian's framework to compare public and private hospital care service quality. The constructs used in the study are listed on table 3.1.

Table 3.1 *Camilleri and O'Callaghan constructs in comparing public and private hospital care service quality (1998)*

The service quality sentinels used	
1. Catering:	<ul style="list-style-type: none"> • menu; • food quality.
2. Hospital environment:	<ul style="list-style-type: none"> • furniture; • cleanliness; • general presentation.
3. Professional and technical quality:	<ul style="list-style-type: none"> • nursing care; • medical care; • apparatus used.
4. Patient amenities:	<ul style="list-style-type: none"> • comfort; • privacy; • visiting hours.
5. Service personalization:	<ul style="list-style-type: none"> • confidentiality; • information given; • personal attention.
6. Accessibility	<ul style="list-style-type: none"> • waiting list; • stay length.

Source: Camilleri & O'Callaghan (1998).

Results on table 3.2 are quite interesting. Patients consider in both sectors, professional and technical care followed by service personalization as the most important aspects in health care service quality. In fact, the attribute that is clearly more divergent between public and private sector is price. Price assumes more importance in public sector than in private. One might think that people who have less money (use public sector) value it more than people who are wealthier and do not attribute such a high importance.

Table 3.2 *Camilleri and O'Callaghan (1998) rank order of the different service quality indicator groups*

Rank	Public sector	Private sector
1	Professional and technical care	Professional and technical care
2	Service personalisation	Service personalisation
3	Price	Environment
4	Environment	Accessibility
5	Patient amenities	Patient amenities
6	Accessibility	Catering
7	Catering	Price

Source: Camilleri & O'Callaghan (1998).

It is also interesting to look at figure 3.2 (score: 1- very poor to 7-excellent). All constructs have higher expectations in private sector (except for accessibility). Even though professional and technical care and service personalization are equally ranked in both sectors, expectations are higher in the private sector than in the public sector. This might be the result of marketing campaigns of private hospitals to improve and spread an external image of quality. This fact is quite relevant to understand if people who choose private sector are more demanding than those who choose the public.

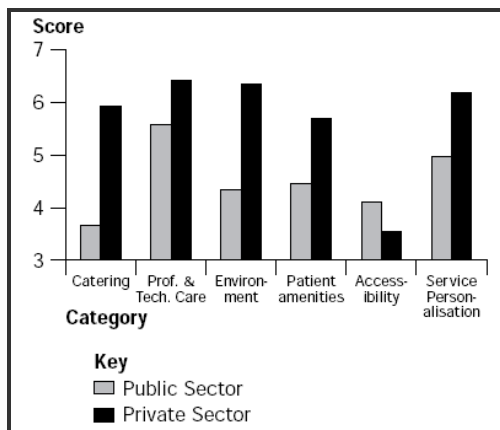


Figure 3.2 Patient expectations for public and private care service quality.

Source: Camilleri & O'Callaghan (1998).

Jabnoun and Chaker (2003) did a similar study in the United Arab Emirates, comparing the quality of private and public hospitals for inpatients, applying Parasumaran et al.'s SERVQUAL. What seems surprising in this study is that public sector has a higher overall service quality assessment than private sector. The authors argue that patients in public hospitals are generally more satisfied than patients in private. Is it because they are more demanding and have higher expectations? Public hospitals scored higher in Empathy, Tangibles, Reliability and Supporting Skills.

Private sector is particularly low in tangibles and reliability. Private hospitals should be more patient-oriented as patients have higher expectations. The private sector should therefore invest in training nurses, physicians and administrators to improve their reliability assessment.

Taner and Antony (2006) compared care service quality between public and private hospitals in Turkey. Using SERVQUAL scale they found that satisfaction with doctors and reasonable costs are the most important determinants of service quality in the public sector, while in the private sector the most important determinants are doctors, nurses and supportive services. On a similar basis, Angelopoulou, Kangis and Babis (1998, p. 18) found that patients in the private sector value more communication skills and therefore have higher expectation on attention to their emotional needs, which makes satisfaction more difficult to achieve. The public patients on the other hand, have lower expectations on medical service and therefore are in general more satisfied.

Patients as customers assess their satisfaction based on structure and process. These evaluations influence satisfaction which has an impact on behavioral intentions. (Owusu-Frimpong, Nwankwo & Dason, 2010, p. 207). Some studies (Choi, Cho, Lee, Lee & Kim, 2004, p. 919; Taylor & Cronin, 1994, p. 36) supported evidence for the multi-attribute model framework in which cognition through the assessment of service quality and value affected satisfaction that has a conation to behavioral intention.

3.4. Hypothesis Development

It is within this framework that patient's choice is constructed and made. The goal of this research project is to understand how behavior and intention are determined within health care. Particularly, if behaviors in medical care regarding the choice between the public and private sectors, result from the three well known factors of the TPB. The hypotheses of this study are the following:

H1. The higher the attitude toward the private sector, the higher a patient's intention to go to the private sector.

H2. The higher the subjective norm toward the private sector, the higher a patient's intention to go to the private sector.

H3. The higher the Perceived Behavior Control toward the private sector, the higher a patient's intention to go to the private sector.

Service Quality and Patient's Satisfaction Framework has proved to have an impact on patient's intentions and behaviors. Therefore, an extension of the TPB will be conducted to include these measures (figure 3.3):

H4. The better past experiences with the private sector, the higher a patient's intention to go to the private sector.

H5. The worse past experiences with the public sector, the higher a patient's intention to go to the private sector.

The vast applications of the TPB in the literature have supporting evidence that other variables such as behavioral and non-behavioral (e.g. demographic variables) are

relevant predictors of intention and behavior. Therefore, the sixth hypothesis of this study is:

H6. Other behavior variables and non-behavior variables will influence intention to go to the private sector.

As described before in chapter 2.2 the health care market is not homogenous, with different supplies and demands within the public and the private sectors. The final hypothesis of this study is the following:

H7. The constructs used to predict intention and behavior will differ for general practice medical consultation, specialist medical consultation, emergency assistance, ambulatory surgery and hospitalization.

These hypotheses have to be analyzed within the Portuguese health care system and inside the Portuguese culture and socio-economic reality.

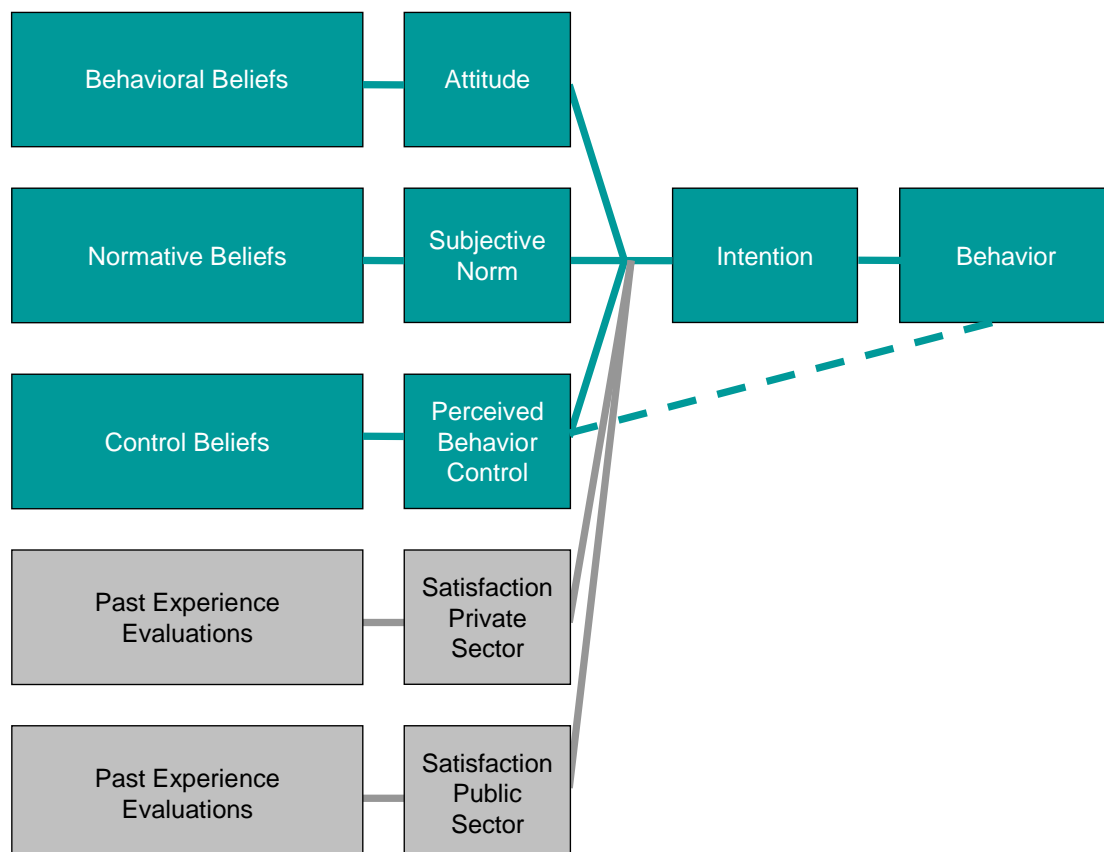


Figure 3.3 Extension of the Theory of Planned Behavior (Ajzen, 1985).

4. RESEARCH METHODOLOGY

4.1. Outline of Methods and Justifications

To answer the research questions a positivist epistemology will be followed. To understand the applicability of the TPB to health care behavior and choice, statistical analysis will be conducted through quantitative research.

The use of the positivist approach is understood as a deductive process, to test a theory. In the present study, the deductive process will test the TPB in health care environment. This quantitative approach will use inquiring strategies based on experiences. The method will be questionnaires, with closed questions to be statistically analyzed. Each of the three factors that are identified to influence human action in the theory of planned behavior will be tested as well as Intention.

Furthermore, the TPB will be extended to test if past experience, through satisfaction, can influence intention and /or behavior in the choice to go to the private sector.

Creswell (2003) identified investigation practices in the use of quantitative approaches: tests and verifies theories or explications; identifies variables to study; related variables in the study questions or hypotheses; uses validity patterns; observes and measures data, numerically; uses unbiased approaches; uses statistical procedures.

All these practices can be applied to the present study and justify the quantitative approach, opposed to the qualitative.

Methodologically, there will be four steps to take:

1. Design and development of the questionnaire based on previous studies in the international literature; Run a few pre-tests to analyze the questionnaire's general comprehension and check any possible ambiguities; Re-design questionnaire.
2. Data collection, there will be a minimum of 200 questionnaires. Data collection will be done through internet by a closed questions questionnaire.
3. Statistic analyses of questionnaires, using the *SAS Enterprise Guide* software.
4. Results and conclusions.

4.2. Used Methodologies

Most TPB and service quality and satisfaction studies use 7-point scaling questions. TPB's belief strengths questions are usually assessed in 7 points graphic scale (e.g.: likely-unlikely) and evaluation questions are asked using a 7-point evaluative scale (e.g.: good-bad). These responses could either be assessed in a unipolar scale (e.g.: 1 to 7 or 0 to 6) (Forward, 2009; Umeh & Patel, 2004; Choi, Cho, Lee, Lee & Kim, 2004) or a bipolar measure (e.g. -3 to +3) (Jackson, Smith & Conner, 2003). In this last scaling, low probabilities or unfavorable evaluations would be represented by negative numbers while high probabilities and favorable evaluations would be represented by positive numbers (Ajzen, 2002, p. 10). Ajzen (1991, p. 193) defended that both measurements could be applied with equal justifications, in particular because as they are equal-interval measures simple linear transformations can be applied.

The TPB data analysis is, in many studies, conducted by using multiple regression analysis on intention and behavior (Jackson, Smith & Conner, 2003; Godin, Valois, Lepage & Dasharnais, 1992; Forward, 2009; Umeh & Patel, 2004). The usage of multiple regressions methodology is in some cases preceded by the application of reducing variables techniques such as factor analysis or principal component analysis (Jabnoun & Chaker, 2003).

Some other studies apply Structural Equation Modeling (SEM) to conduct the data analysis (Yang, McComas, Gay, Leonard, Dannenberg & Dillon, 2010; Stone, Jawahar & Kisamore, 2009; Teo & Lee, 2010). SEM is a model that uses more than one equation so it can take into account some complex relationships that exist between a group of variables that are interdependent (Vilares & Coelho, 2005, p. 245).

The usage of SEM in the TPB applications is closely related to the complexity of the behavior. Stone, Jawahar and Kisamore (2009, p. 233) model is exemplified in the figure below. In this example the three constructs of the TPB predicted both intention and justification variables.

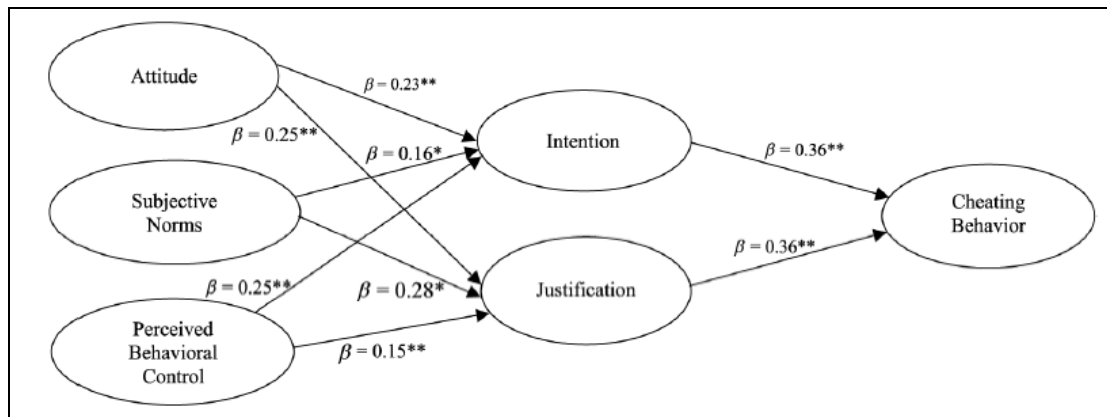


Figure 4.1 Example of SEM methodology in the application of TPB.

Source: Stone, Jawahar and Kisamor (2009).

4.3. Questionnaire Design

The questionnaire was built based on international literature review on the Theory of Planned Behavior. Godin, Valois, Lepage and Desharnais (1992, p. 1337) applying the TPB and following Ajzen and Madden (1986) and Ajzen (1985, 1988) methodology in their study measured the following variables: Behavior, Behavior Intention, Attitude-towards-the-behavior, Subjective Social Norm, Perceived Behavior Control, Habit and other personal variables. These are reliable measures to build a healthcare choice model based on the TPB.

As it was highlighted in chapter 2.2, the healthcare market (public and private suppliers) is quite different in some areas. **General practice medical consultation, specialist medical consultation; emergency assistance, ambulatory surgery and hospitalization** will be analyzed because these five markets are in different maturity stages due to market demand, historical reasons and market development. The private sector represents 50% of the supply in **specialist consultation**, 25% in **hospitalization** and 5% in **emergency assistance** (*Privados asseguram*, 2010). **General practice** is the medical consultation most strongly publicly provided, having only 17% of private practice. **Ambulatory surgeries** have increased significantly due to technology

developments that allow surgery procedures without hospitalization and other factors as the increase of the surgery rooms (Ribeiro, 2009, p. 94). In 2009 ambulatory surgeries grew in Portugal about 24%, with 260,237 ambulatory surgeries, more 50,132 than in 2008. The ambulatory surgeries represented 47% of total surgeries that, in the same year, only grew 6% (*Saúde: Cirurgia de Ambulatório*, 2010).

For these reasons it is likely that behavior and intention will be built differently in each of these markets. As so the questionnaire was built to analyze those variables in each of these five markets with each TPB constructs being asked separately for each of these markets.

The questions built for the questionnaire are the following:

1. Behavior question: “During the past 12 months did you attend a private health care assistance consultation?” This is a yes or no question. If the answer was positive, it was followed by “Please identify what kind of healthcare assistance”. According to Ajzen (2002, p. 2) the behavior question should be defined in terms of Target, Action, Context and Time elements (TACT). In the present study, action (go to the doctor), target (private sector) and time⁴ (last 12 months) are defined. The context is related to the kind of medical assistance needed (such as a hospital for the hospitalization market question) and is asked separately for each of the identified markets. Ajzen (2002, p. 2) also highlighted the importance of the principle of *compatibility*. This principle requires that all the constructs (intention, attitude, subjective norm and perceived behavior control) are defined in terms of the exact same TACT elements, regardless of how they have been defined.
2. Intention question: “Imagine you need a specialist consultation. What is the probability out of 100 that you will choose a private health provider?” As in Godin, Valois, Lepage and Dasharnais study (1992) the answers were recorded on a ten-point scale, with ten percentage points’ intervals such as 0-10%, 11-20% up to 91-100%.

⁴ Time element is dropped from the other TPB’s construct questions. The purpose of the study is to predict and understand intention and behavior in general, not to restrict it to a period of time. It was included in the behavior question to assess the recent behavior, as 1 year in the recommended period to do a medical “check-up”.

3. Attitude (towards-the-behavior) question: “In your opinion, to choose a private health care assistance instead of the public health care assistance if you need a specialist consultation would be?”. Attitude towards the behavior is described as a person’s overall evaluation of performing a particular behavior (Ajzen 2002, p. 5). Evaluation can be measured by two components: **instrumental nature** (whether the behavior achieves something), measured by adjective pairs as valuable/worthless and harmful/beneficial; **experiential quality** (how it feels to perform the behavior) reflected in such scales as pleasant/unpleasant and enjoyable/un-enjoyable (Francis et al., 2004, p. 13). The adjective pair good/bad tend to capture the overall evaluation very well as it has both an instrumental nature and experiential quality. Therefore, responses were three 7-point semantic differential scales (1 – 7): bad/good (overall evaluation), disadvantageous/advantageous (instrumental nature) and unpleasant/pleasant (experiential quality).
4. Subjective Norm question: “My family/friends think I should choose private assistance instead of public assistance if I need a specialist consultation. This question was measured on a 7-point semantic scale (1 – 7) with completely disagree/ completely agree at opposite ends.
5. Perceived Behavior Control question: “If I need a specialist consultation, to choose the private sector is entirely up to me”. Responses were recorded in 7-point semantic scale (1 – 7) outcome: strongly disagree/strongly agree. PBC questions should reflect people’s confidence that they are capable of performing the target behavior. This is the result of two aspects: the person’s **self-efficacy** (how confident they are about performing the behavior) and their beliefs about the **controllability** of the behavior (whether performing the behavior is up to them) (Francis et al, 2004, p. 24). In the present study, controllability is more relevant to measure in the sense that the decision to choose the private sector would be easier to make (it is fairly easy to perform this behavior), but is not completely under the control of the person because it depends on money, time, availability and proximity. Therefore the PBC question intends to measure controllability.

6. Habit question: “If you need a specialist consultation, would you choose”.

People would have to choose between: always a private health care provider; regular but not always a private care provider; occasionally a private health care provider; always a public health care provider.

Associated with the last construct, habit, there is an important feature that might influence behavior: past experience. Naturally, each experience can be evaluated and as any other market product the consumer (patient) can be satisfied or not with it.

John (1992, p. 57) concluded that prior experience with health care can have an important influence in a subsequent health care experience (perceived quality, satisfaction with the health experience and behavioral intentions).

To understand how past satisfaction can influence intention and behavior, two new variables will be added tested in Ajzen’s TPB: past experience evaluation - satisfaction on the private sector and on the public sector.

The second part of the questionnaire has the purpose to analyze the relevant satisfaction constructs separately for the private sector and the public sector.

Based on the study conducted by Camilleri and O’Callaghan (1998) some of the service quality indicator groups that were assessed in the questionnaire were:

1. Service quality of professional and technical care;
2. Hospital environment;
3. Catering service;
4. Patient’s amenities;
5. Service personalization;
6. Accessibility.

The perception of value through the evaluation of price was also added to the questionnaire as it has been relevant in some studies (Choi, Cho, Lee, Lee & Kim, 2004, p. 915; Gooding, 1995):

7. Price.

Reputation has been studied as an important part of doctor-patient loyalty building process (Torres, Vasques-Parraga & Barra, 2009, p. 185) and was therefore also added as a measure in the questionnaire:

8. Reputation.

Administrative responsiveness has been reported as a major issue associated with public health care provision in the Portuguese market:

9. Administrative responsiveness.

Finally, a general question regarding past experience was asked for the private and public sectors:

10. Overall evaluation of past experience.

In total, 10 questions were raised to evaluate past experiences in each sector that had the purpose to measure satisfaction. In addition, and in accordance to the literature⁵ (Forward, 2009), personal variables were asked: age, education, gender, civil status, current labor situation and residence. Regarding the residence, the three response options (Lisbon metropolitan area, Oporto metropolitan area and Rest of Portugal) are the result of the fact that both Lisbon and Oporto have the highest health indicators together with high percentage of private supply (see tables AP1.1 and AP1.2, appendix 1).

In Portugal, as highlighted in chapter 2, the health insurance market has been growing. The choice within the health sectors is very closely related with health insurances. Based on the literature assumption that one person might benefit from more than one coverage it was assessed what kind of health coverage the respondent would have from the following options: private insurance (you pay for it), private insurance (your company pays for you), private insurance (extension of your spouse or other relative); health care subsystem; NHS and other.

Two questions were added as an introduction⁶ to the questionnaire. These were general questions related to interest and importance attributed to health care. The questionnaire had a total of 56 closed questions (see original questionnaire in appendix 3 and translation in appendix 4).

After the development of the draft of the questionnaire, a pre-test was conducted to analyze the questionnaire's general comprehension and check ambiguities. Three pre-tests were conducted to: 27 year-old man living in Lisbon metropolitan city; 47 year-old woman living in Lisbon metropolitan city; 54 year-old woman living in the "rest of Portugal". In the pre-tests, each volunteer read-aloud each question of the questionnaire

⁵ For example, Forward (2009) found that age and annual mileage were significant in the prediction of speeding in an urban area.

⁶ Nevertheless, the responses to these questions were tested in the regression analysis.

and then described in their own words their understanding of the question. They also commented aloud their reasoning to answer each question. Even though the pre-tests originated some minor corrections, there was a good comprehension of the questionnaire.

4.4. Data Analysis

4.4.1. Participants and procedures.

Data was collected through online survey software, with the survey link sent out via e-mail. The questionnaires were sent to my professional, personal and academic e-mail contacts and partially to their contacts (by email or through social network). The questionnaire was conducted in Portuguese.

The questionnaire responses were collected between November 2nd and December 6th of 2010. The questionnaire took on average 10 minutes to be completed.

The number of complete responses⁷ was 349. Of these respondents 62% are female and 38% are male. The population of the survey is relatively young with 51% of the respondents aged between 18 and 29 years; 28% of the respondents aged between 30 and 39 years; 13% aged between 40 and 49 years old; 6% aged between 50 and 59 years old; 2% aged between 60 and 69 years old; 1 respondent is 80 or more years old and accounts for less than 1% of the respondents.

Regarding the civil status, the majority of the sample (60%) is single, 27% of the respondents are married, 8% are in a union, 4% are divorced and 1% is a widow.

The education level is more scattered with 1% having the 9th grade, 16% the 12th grade, 35% the bachelor, 20% the postgraduate, 21% the master, 5% the PHD level and 1% other levels of education. The current labor situation is mainly employed (67%) a

⁷ Complete response means that the respondent went throughout the questionnaire and clicked the submission button. It does not mean that all the questions have an answer.

considerable proportion are students (23%) and the rest of the respondents are unemployed (5%) or retired (2%) or have other situation.

The majority of the sample lives in the Lisbon metropolitan area (69%), a very small proportion lives in the Oporto metropolitan area (3%) and the rest, less than a third, lives in the rest of the country (graphs AP2.1-6, Appendix 2).

4.4.2. Data preparation.

Before starting the analysis it is necessary to conduct data preparation. This consists of the treatment of the data downloaded from the survey site:

www.survey.giizmo.com.

The data download had the data as it appeared in the internet, therefore and with the purpose of simplifying, all questions were replaced by the question number and name of the variable (e.g.: “1. How strongly are you interested in health issues?” was transformed into 1Interest).

Questions 40 and 50 (appendix 4) due to restrictions on the online survey software had some text in responses 1 and 7 (“1 – Very poor” and “7-Very good”). These were transformed into 1 and 7 respectively. The response option “I do not have experience in this sector” was treated as a missing value.

The questions measuring Intention (questions 6-10, appendix 4) were measured in a probability interval scale (0-10%, 11-20%, 21-30%, 31-40%, 41-50%, 51-60%, 61-70%, 71-80%, 81-90% and 91-100%). As *SAS Enterprise Guide*, the software used to conduct the analysis, could not use this interval scale, these variables were transformed into a 10 point scale (1, 2, 3, 4, 5, 6, 7, 8, 9 and 10) which is consistent with the original scale and maintains the same proportionality.

All questions with multiple items that could impact the models separately (questions 3, 5, 26, 27, 28, 29, 30, 52, 53, 54, 55 and 56, appendix 4) were transformed into several binary (0, 1) variables, as it is exemplified in table 4.1 below.

Binary questions with text responses (questions 4 and 51) were also transformed into a numeric (0, 1) response:

- Question 4: During the past 12 months did you attend a private health care assistance consultation? Yes – 1 / No – 0.
- Question 51: Gender. Female – 1 / Male – 0

Table 4.1 *Data Preparation: Multiple Items Questions into Binary Variables (e.g. question 3)*

3. What kind of health care coverage do you have? <u>You can choose more than one answer</u>	Binary Variables
Private insurance (you pay for it)	3AInsurance (0, 1)
Private insurance (your company pays for you)	3BInsurance (0, 1)
Private insurance (extension of your spouse or other relative coverage)	3CInsurance (0, 1)
Health care subsystem (SAMS, ADSE, PT-ACS, SÁVIDA, etc.)	3DInsurance (0, 1)
National Health Service	3EInsurance (0, 1)
Other	3FInsurance (0, 1)

Source: Survey database.

4.4.3. Statistical methods.

The application of the Theory of Planned Behavior tests several variables, but there are five which are considered the main variables of the model: attitude toward the behavior, subjective norm, perceived behavioral control, private satisfaction and public satisfaction.

The scheme of the theory being tested is shown below. It uses an extension of the Theory of Planned Behavior that includes the past experiences evaluations as an assessment of the Service Quality and Patient's Satisfaction Framework. Service quality

and patient's satisfaction has supporting evidence in the literature that influences behavior intention (Choi, Cho, Lee, Lee & Kim, 2004, p. 919; Taylor & Cronin, 1994, p. 36).

Three of the variables depicted in the scheme below were measured by more than one question. Attitude toward the behavior was measured by three questions for each of the five models (appendix 4):

1. General Practice Model: 11a, 11b and 11c;
2. Specialist Medical Consultation: 12a, 12b and 12c;
3. Emergency Model: 13a, 13b and 13c;
4. Ambulatory Surgery Model: 14a, 14b and 14c;
5. Hospitalization Model: 15a, 15b and 15c.

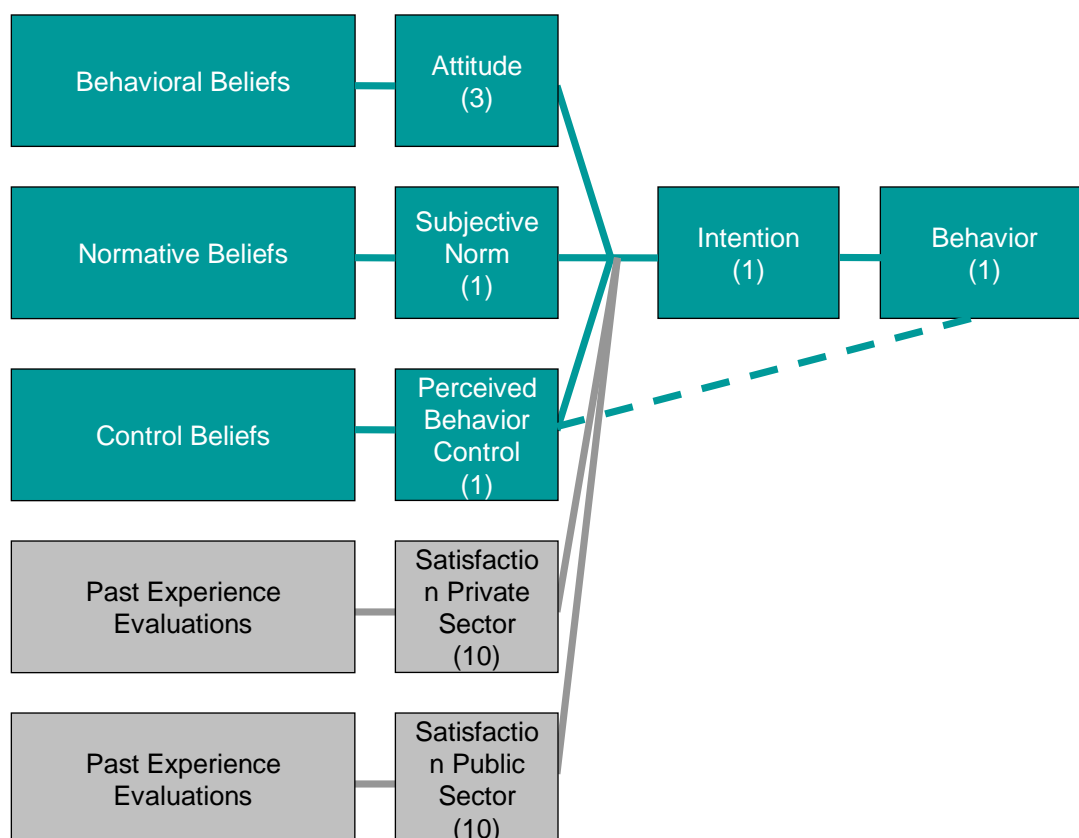


Figure 4.2 Extension of the Theory of Planned Behavior (Ajzen 1985): number of questions.

The assessment of prior experiences evaluation (satisfaction) for both the private sector and the public sector was measured by using ten questions (this was not

measured for each of the five models, it was measured as a general evaluation of the sectors):

6. Private satisfaction: 31 – 40;
7. Public satisfaction: 41 – 50.

Before applying the regression analysis it is necessary to reduce the number of variables, replacing the observed variables by one factor or unobserved latent variable. This will be done by using **Factor Analysis**.

Factor Analysis method was conducted on *SAS Enterprise Guide* software based on the Principal Analysis Factoring Method using the covariance matrix⁸. The Number of factors was set to one as the purpose of this analysis is simply to reduce the number of variables. Communality was estimated on the maximum absolute correlation with other columns and no rotation was applied. Kaiser's measure of sampling adequacy overall in general was above 0.8 and individually all above 0.5 and almost all above 0.8, revealing that the data is suitable and has good quality for conducting Factor Analysis in all models (Vilares & Coelho, 2005, p. 157):

- **Private sector** (10 variables): all variables are correlated; overall Kaiser's sample adequacy of 0.90; 0.78 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.07 (figures AP5.1 – AP5.4, appendix 5);
- **Public Sector** (10 variables): all variables are correlated; overall Kaiser's sample adequacy of 0.86; 0.71 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.11 (figures AP5.5 – AP5.8, appendix 5);
- **Attitude – General Practice Model** (3 variables): all correlations above 0.65; overall Kaiser's sample adequacy of 0.72; 0.96 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.02 (figures AP5.9 – AP5.12, appendix 5);
- **Attitude – Specialist Consultation Model** (3variables): all correlations above 0.65; overall Kaiser's sample adequacy of 0.73; 0.98 of variance

⁸ Matrix options: Factor covariance matrix instead of correlation matrix; correct the result matrix for the mean; divisor for variance: degrees of freedom.

explained by one factor; overall root mean squares off-diagonal residuals of 0.01 (figures AP5.13 – AP5.16, appendix 5);

- **Attitude – Emergency Model** (3variables): all correlations above 0.64; overall Kaiser’s sample adequacy of 0.70; 0.95 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.03 (figures AP5.17 – AP5.20, appendix 5);
- **Attitude – Ambulatory Surgery Model** (3variables): all correlations above 0.70; overall Kaiser’s sample adequacy of 0.73; 0.97 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.02 (figures AP5.21 – AP5.24, appendix 5);
- **Attitude – Hospitalization Model** (3variables): all correlations above 0.65; overall Kaiser’s sample adequacy of 0.72; 0.96 of variance explained by one factor; overall root mean squares off-diagonal residuals of 0.03 (figures AP5.25 – AP5.28, appendix 5);

The identification of the predictors of intention and behavior needed to be conducted separately. Intention was measured on a 10 point scale and therefore is suitable for linear regression while behavior was measured as a binary variable (yes/no answer) suitable for logistic regression.

The measure of Intention was performed by conducting **Linear Regression** (in each one of the five models) where intention was set as the dependent variable and all the explanatory variables were tested⁹: interest and information (introduction questions); health care coverage; private consultation; private consultation area, subjective norm; perceived behavior control; habit; private sector factor; public sector factor; attitude factor; gender; age; civil status; education level; current labor situation and residence (appendix 4).

The linear regression was performed initially with all explanatory variables. After identifying the variable with the highest p-value (t) but not under 0.05 (individual coefficient test – testing H₀. if β is null) that variable would be dropped from the model and a new regression was conducted. This step would be repeated up to the moment where all individual coefficients’ tests were below 0.05.

⁹ The variables with a reference to a model were only tested in the respective model.

The measure of behavior (binary variable) depended on the response to question no. 5 where people were asked if they had attended a private health care consultation in the last 12 months. The results are shown in table 4.2.

Not attending a private health care consultation in the last 12 months does not equal attending a public one as a person might simply not need health care assistance. These results cannot be used to measure behavior. In many TPB studies data is collected at one point in time and does not consider the prediction of behavior (Jackson, Smith and Conner, 2003, p. 130). The same kind of constraints were found in this study (regarding data collection) and as many other works in the literature, this study will not analyze the prediction of behavior.

Table 4.2 *Behavior Variables*

People attending a private health care consultation in the last 12 months	
General practice medical consultation	62
Specialist medical consultation	221
Emergency	40
Ambulatory Surgery	6
Hospitalization	12
Other	10

Source: Survey database.

According to Ajzen (1991, p. 187) intention was a significant predictor of behavior with a relevant explaining percentage. Although this study will not measure behavior directly, it will, nevertheless, be partially explained by intention.

5. RESULTS AND DISCUSSION

5.1. General Practice Model

The results of the prediction of Intention are shown in the table below. These are the variables that achieved significance¹⁰ on the coefficients (where $p < 0.05$ and therefore the H_0 hypothesis where β is null is rejected). The estimated model to predict Intention to choose the private sector in the need of a general practice medical consultation obtained $R^2 = 0.8121$ (Adj. $R^2 = 0.8052$ and F-value = 117.15) with 282 observations used.

Table 5.1 *General Practice Model Variables Results*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.58585	0.39983	6.47	<.0001
3A Private Insurance (you pay for it)	0.59022	0.22983	2.57	0.0108
3E National Health System	-0.42947	0.19377	-2.22	0.0275
16 Subjective Norm General Practice	0.18352	0.07368	2.49	0.0133
21 Perceived Behavior Control General Practice	-0.10388	0.05214	-1.99	0.0473
26A Habit Always General Practice	6.12526	0.41566	14.74	<.0001
26B Habit Regularly General Practice	5.45157	0.35966	15.16	<.0001
26C Habit Occasionally General Practice	2.41391	0.26431	9.13	<.0001
54 Education Level – 9 th grade	3.36418	1.12228	3.00	0.0030
Private Factor	-0.30816	0.10682	-2.88	0.0042
Attitude Factor General Practice	0.78043	0.15272	5.11	<.0001

Source: *SAS Enterprise Guide* – survey data.

Interesting to analyze is the fact that only two ways of health care coverage have an impact on the intention to choose the private sector. 3A Private Insurance is a private health insurance which the person insured pays for. In the other insurance options the payment was not directly made by the person who would use it, leading to the conclusion that the value for the money paid directly is higher. As the person pays for the health care coverage expects to exploit the advantages of the insurance and therefore contributes to the intention to choose the private sector. This is particularly relevant considering that general practice medicine is strongly provided by the public sector. 3E Private Insurance is the National Health Service (the access to the public sector) that in

¹⁰ Figure AP6.2 in appendix 6 has all variables: significant and nonsignificant.

theory every person should have (even though not everyone assumes to have). This variable has a negative β , which is reasonable in the sense that who has this coverage has a negative incentive to go to the private sector (or a positive incentive to go the public sector).

Subjective norm has one of the smallest impacts on the intention (0.18352) as well as the perceived behavior control (-0.10388), even though PBC has a negative impact. This is also a very interesting result. The more aware people are about the difficulty of choosing the private sector the higher the intention to choose it. The higher the belief that to choose the private sector is entirely up to the person the less the intention to choose it. Even though this appears to be a contradiction, this might be the result of the conscious about what is easy or difficult. A person that goes regularly to the private sector is more aware of the self control in the way that is more aware of its cost, access and other constraints. A person that does not choose the private sector, and therefore does not pay for it, might assume that the choice is their own, by not having full understanding of the choice's costs.

Habit is in all its ways (always, regularly or occasionally) the most important predictor of intention (6.12526, 5.45157 and 2.41391 respectively). Simply people maintain the same habits and do not intend to change, whether because they are happy with their choices or because they do not have other options is not possible to conclude, only that their future intention is extremely consistent with their past habits.

The 9th grade education level is a surprise in its significance level. Not only the p-value is under 0.05 but also β has a very high figure: 3.36418 (but also the variable with the highest standard error 1.12228).

It can be interpreted that the lesser the education level the higher the intention to go to the private sector. Considering that all other education level variables do not predict intention (neither have the same pattern nor the opposite one – with a negative β) future research on education level would be interesting, in particular with lower educational levels.

The overall satisfaction on the private sector¹¹ has a negative $\beta = -0.30816$. This result would mean that the most satisfied people are with their past experiences in the

¹¹ Only 9 out of 350 responses assumed not to have experience in this sector. 5 of those answered to private satisfaction questions and were, therefore, expressing their expectations. As these responses

private sector the less the intention to choose this sector. This inconsistency leads to drop this variable of the analysis as it does not corroborate the theory that is being tested in the present study: the happier people are with the private sector, the higher would be the intention to choose the private sector.

Also important to highlight is that the past experience on the public sector (public factor) does not play any role in the increase of the intention to go to the private sector, i.e., being unsatisfied with the public sector (coefficient would be negative) is not a reason to increase the intention to go to the private sector.

Finally, and in accordance with the literature, attitude predicts intention. Re-running the model excluding the private factor satisfaction, the 3EInsurance variable (National Health System or public insurance) becomes not significant and the final model yielded a value of $R^2 = 0.7978$ (Adj. $R^2 = 0.7973$, F-value = 163.76 and $Pr < F = <.0001$), with the following variables (figure AP6.1, appendix 6):

Table 5.2 *General Practice Model Variables Results – Final Model*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.21565	0.33162	6.68	<.0001
3A Private Insurance (you pay for it)	0.53468	0.23098	2.31	0.0212
16 Subjective Norm General Practice	0.18133	0.07068	2.57	0.0107
21 Perceived Behavior Control General Practice	-0.09365	0.04657	-2.01	0.0451
26A Habit Always General Practice	6.37309	0.38897	16.38	<.0001
26B Habit Regularly General Practice	5.65575	0.33108	17.08	<.0001
26C Habit Occasionally General Practice	2.54887	0.24117	10.57	<.0001
54 Education Level – 9 th grade	3.25559	1.15332	2.82	0.0050
Attitude Factor General Practice	0.53652	0.14027	3.82	0.0002

Source: *SAS Enterprise Guide* – survey data.

Attitude and the subjective norm predict more than half of the intention. This figure is higher than results found in the literature, where attitude and subjective norm explained between 33-50% of intention (Forward, 2009, p. 199). Adding habit (always, regularly and occasionally) leads to an increase in the R^2 of 0.2294¹². Adding next 3AInsurance conducts to a very small increase of 0.0023. Successively, adding PBC also has a little impact of 0.002 increase in the R^2 . The final addition of the

(not to have experience in this sector) were treated as missing values they were not used to predict intention.

¹² All variables were tested individually to verify which variable conducted to a higher R^2 (table AP6.1, appendix 6). Variables were ordered by R^2 and successively added to the model.

54Education9 variable conducts to an even smaller increase of 0.0003 to a final $R^2 = 0.7978$. In conclusion, attitude, subjective norm and habit explain the majority of the intention for the General Practice Model.

Table 5.3 *General Practice Model – Multiple Regressions*

Prediction of Intention General Practice Model	Model					Variables		
	N	R ²	Adj R2	F Value	PR > F	Variable	PE	PR > t
$I = f(AT+SN)$	342	0.5593	0.5597	215.13	<.0001	Intercept	2.63826	<.0001
						Attitude Factor GP	1.45322	<.0001
						16 Subjective Norm GP	0.77406	<.0001
$I = f(AT+SN+HA+HR+HO)$	341	0.7887	0.7855	250.05	<.0001	Intercept	1.86876	<.0001
						Attitude Factor GP	0.53282	0.0002
						16 Subjective Norm GP	0.18176	0.0115
						26A Habit Always GP	6.33035	<.0001
						26B Habit Regularly GP	5.62342	<.0001
26C Habit Occasionally GP	2.59221	<.0001						
$I = f(AT+SN+HA+HR+HO+IA)$	341	0.7910	0.7873	210.7	<.0001	Intercept	1.80533	<.0001
						Attitude Factor GP	0.51279	0.0003
						16 Subjective Norm GP	0.19338	0.0072
						26A Habit Always GP	6.18848	<.0001
						26B Habit Regularly GP	5.50831	<.0001
						26C Habit Occasionally GP	2.50828	<.0001
3A Private Insurance	0.44679	0.0541						
$I = f(AT+SN+HA+HR+HO+IA+PBC)$	341	0.7930	0.7886	182.21	<.0001	Intercept	2.16648	<.0001
						Attitude Factor GP	0.50669	0.0004
						16 Subjective Norm GP	0.18649	0.0094
						26A Habit Always GP	6.36488	<.0001
						26B Habit Regularly GP	5.64635	<.0001
						26C Habit Occasionally GP	2.56507	<.0001
						3A Private Insurance	0.51052	0.0293
21 Perceived Behavior Control GP	-0.08317	0.0771						
$I = f(AT+SN+HA+HR+HO+IA+PBC+E9)$	341	0.7978	0.7933	173.76	<.0001	Intercept	2.21565	<.0001
						Attitude Factor GP	0.53652	0.0002
						16 Subjective Norm GP	0.18133	0.0107
						26A Habit Always GP	6.37309	<.0001
						26B Habit Regularly GP	6.37309	<.0001
						26C Habit Occasionally GP	5.65575	<.0001
						3A Private Insurance	2.54887	0.0212
						21 Perceived Behavior Control GP	-0.09365	0.0451
54 Education Level 9 th grade	3.25559	0.0050						

Source: SAS Enterprise Guide – survey data.

5.2. Specialist Consultation Model

The results on the prediction of Intention (figure AP6.3, appendix 6), for the Specialist consultation model achieved a value of $R^2 = 0.6480$ (F-value = 84.93 and $Pr > F < .0001$) using 331 observations. The results on significant variables are shown in the table below¹³.

Table 5.4 *Specialist Consultation Model Variables Results – Final Model*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.65795	0.45754	5.81	<.0001
3A Private Insurance (you pay for it)	0.61889	0.22425	2.76	0.0061
3B Private Insurance (your company pays for you)	0.43921	0.19252	2.28	0.0232
17 Subjective Norm Specialist Consultation	0.31593	0.06798	4.65	<.0001
27A Habit Always Specialist Consultation	4.53561	0.43531	10.42	<.0001
27B Habit Regularly Specialist Consultation	3.95872	0.39472	10.03	<.0001
27C Habit Occasionally Specialist Consultation	1.49982	0.39341	3.81	0.0002
Attitude Factor Specialist Consultation	0.32683	0.11985	2.73	0.0067

Source: *SAS Enterprise Guide* – survey data.

Having a health care insurance, in the specialist consultation model, has a wider impact with two variables, 3A Private Insurance – health care insurance paid directly by the user and 3B Private Insurance – health care insurance paid by the employer, being significant with p-value < 0.05. Specialist consultations are poorly provided by the public sector. Having health insurance increases the intention to choose the private sector (either if is paid directly or if is supplied by the employer). 3A Private Insurance has a slightly bigger impact on the prediction of intention than the 3B Private Insurance.

Ajzen's primary variables explaining intention, attitude-toward-the-behavior and subjective norm are significant with low β s of 0.32683 and 0.31593 respectively. Intention is consistent with past behavior through Habit. Unsurprisingly always ($\beta = 4.53561$) going to the private sector has a greater impact on intention, followed by going regularly ($\beta = 3.95872$) and occasionally ($\beta = 1.49982$).

¹³ All significant and nonsignificant variables are shown in table AP6.4 in appendix 6.

Ajzen's Perceived Behavior Control is not significant predicting intention to go to the private sector in the need of a specialist consultation.

Satisfaction on the private sector and satisfaction on the public sector are also not significant and do not explain intention to go to the private sector.

Similar to the analysis on the General practice model, attitude-towards-the-behavior and subjective norm explain the biggest proportion on the intention¹⁴, followed by habit (always, regularly and occasionally) that originate and increase of 0.2439 in the prediction of intention. The addition of Health Insurance (A and B) drives a very small increase of 0.013 in the R².

Table 5.5 *Specialist Consultation Model – Multiple Regressions*

Prediction of Intention Specialty Consultation Model	Model					Variables		
	N	R ²	Adj R2	F Value	PR > F	Variable	PE	PR > t
I = f(AT+SN)	334	0.3911	0.3875	106.36	<.0001	Intercept	4.71433	<.0001
						Attitude Factor SP	0.83009	<.0001
						17 Subjective Norm SP	0.61383	<.0001
I = f(AT+SN+HA+HR+HO)	331	0.6350	0.6294	113.07	<.0001	Intercept	2.80610	<.0001
						Attitude Factor SP	0.38239	0.0016
						17 Subjective Norm SP	0.30760	<.0001
						27A Habit Always SP	4.78163	<.0001
						27B Habit Regularly SP	4.10185	<.0001
27C Habit Occasionally SP	1.51339	0.0002						
I = f(AT+SN+HA+HR+HO+IA+IB)	331	0.6480	0.6403	84.93	<.0001	Intercept	2.65795	<.0001
						Attitude Factor SP	0.32683	0.0067
						17 Subjective Norm SP	0.31593	<.0001
						27A Habit Always SP	4.53561	<.0001
						27B Habit Regularly SP	3.95872	<.0001
						27C Habit Occasionally SP	1.49982	0.0002
						3A Private Insurance	0.61889	0.0061
3B Private Insurance	0.43921	0.0232						

Source: SAS Enterprise Guide – survey data.

5.3. Emergency Model

¹⁴ Individual regressions on table AP6.2.

The variables that are significant¹⁵ in the prediction of intention to choose the private sector in case of an emergency assistance are shown in the table below. The results are consistent with the prior models conducting to a value of $R^2 = 0.6967$ (Adj. $R^2 = 0.6870$ and p-value (F) $<.0001$) using 260 observations.

Attitude-toward-the-behavior and subjective norm are significant together with habit (always, regularly and occasionally) that has the higher β s. Health care insurance assumes again an important role in the prediction of intention when the insurance is paid directly by the user.

Perceived Behavior Control is excluded from the model with a p-value > 0.05 .

Both the private sector and the public sector factors are significant, but surprisingly both variables have negative coefficients. It is reasonable to conclude that a person satisfied with their past experience in the public sector would have a negative impact in the intention to go to the private sector.

The same analysis does not make sense regarding the private sector. The fact that a person is happy with the private sector rationally would not decrease the intention to go to the private sector. Consequently the private sector model will be drop from the analysis and multiple regressions will be conducted.

Table 5.6 *Emergency Model Variables Results – Model*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.18840	0.33326	6.57	<.0001
3A Private Insurance (you pay for it)	0.65923	0.28182	2.34	0.0201
18 Subjective Norm Emergency	0.30052	0.08663	3.47	0.0006
28A Habit Always Emergency	4.30679	0.53014	8.12	<.0001
28B Habit Regularly Emergency	3.46538	0.40302	8.60	<.0001
28C Habit Occasionally Emergency	1.05391	0.30968	3.40	0.0008
Private Factor	-0.31120	0.13071	-2.38	0.0180
Public Factor	-0.27254	0.13139	-2.07	0.0391
Attitude Factor Emergency	0.92542	0.17853	5.18	<.0001

Source: *SAS Enterprise Guide* – survey data.

The drop of the private sector has an impact in the significance of two other variables: 3AInsurance and Public Factor. These variables became not significant with the p-value > 0.05 . Retrieving these variables one by one with multiple linear

¹⁵ All variables, significant and nonsignificant are shown in table AP6.6 in appendix 6.

regressions, the following results in the table below are accomplished, with $R^2 = 0.6278$ (Adj. $R^2 = 0.6221$, $F = 109.97$ and p -value (F) $>.0001$) using 332 observations.

Table 5.7 *Emergency Model Variables Results – Final Model*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.06291	0.31899	6.47	<.0001
18 Subjective Norm Emergency	0.36715	0.08715	4.21	<.0001
28A Habit Always Emergency	4.54232	0.52815	8.60	<.0001
28B Habit Regularly Emergency	3.46617	0.37816	9.17	<.0001
28C Habit Occasionally Emergency	1.03564	0.29711	3.49	0.0006
Attitude Factor Emergency	0.72742	0.16648	4.37	<.0001

Source: *SAS Enterprise Guide* – survey data.

In conclusion, attitude and subjective norm are both significant. Attitude having a higher coefficient (0.72742) has a bigger impact on intention than norm (0.36715). Habit always is the variable with the highest impact on the prediction of intention (4.54232), followed by habit regularly (3.466217) and habit occasionally (1.03564), which reveals once more that people's intention are consistent with their past experiences.

Table 5.8 *Emergency Model – Multiple Regressions*

Prediction of Intention Emergency Model	Model					Variables		
	N	R^2	Adj R2	F Value	PR > F	Variable	PE	PR > t
$I=f$ (AT+SN)	335	0.4914	0.4884	160.41	<.0001	Intercept	2.22964	<.0001
						Attitude Factor ER	1.30461	<.0001
						18 Subjective Norm ER	0.68184	<.0001
$I=f$ (AT+SN+H A+HR+HO)	332	0.6278	0.6221	109.97	<.0001	Intercept	2.06291	<.0001
						Attitude Factor ER	0.72742	<.0001
						18 Subjective Norm ER	0.36715	<.0001
						28A Habit Always ER	4.54232	<.0001
						28B Habit Regularly ER	3.46617	<.0001
28C Habit Occasionally ER	1.03564	0.0006						

Source: *SAS Enterprise Guide* – survey data.

Running individual variable regressions (with the variables that previously proved to be significant) and ordering the models by decreasing R^2 (table AP6.3, appendix 6) the table above can be produced. Attitude-toward-the-behavior and subjective norm

represent majority of the explaining capacity of the model, accounting for a $R^2 = 0.4914$. The addition of the habit variables led to a R^2 increase of 0.1364.

5.4. Ambulatory Surgery Model

The Ambulatory surgery model used 321 observed variables to achieve a value of $R^2 = 0.7031$ (Adj. $R^2 = 0.6955$, F-value = 92.37 and p-value (F) <.0001). The results of the significant variables of this model are shown in the table below¹⁶.

Table 5.9 Ambulatory Surgery Model Variables

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	1.65008	0.36640	4.50	<.0001
3A Private Insurance (you pay for it)	0.98058	0.26630	3.68	0.0003
3B Private Insurance (your company pays for you)	0.63786	0.22775	2.80	0.0054
19 Subjective Norm Ambulatory Surgery	0.39580	0.08508	4.65	<.0001
29A Habit Always Ambulatory Surgery	4.18445	0.42422	9.86	<.0001
29B Habit Regularly Ambulatory Surgery	3.30750	0.37422	8.84	<.0001
29C Habit Occasionally Ambulatory Surgery	1.02147	0.27446	3.72	0.0002
51 Gender Female	0.48145	0.20805	2.31	0.0213
Attitude Factor Ambulatory Surgery	0.51825	0.15170	3.42	0.0007

Source: SAS Enterprise Guide – survey data.

Similar to the specialist consultation model, the ambulatory surgery model has two health care insurance kind of coverage significant with $p < 0.05$. 3A Private Insurance is the health care coverage where the person pays it directly, 3B Private Insurance is the coverage that is a benefit from the employer. The first coverage has a greater impact on the prediction of intention (0.98058) as compared with the second coverage (0.63786) which is a rational result having people valuing more the money they pay directly.

Consistent with literature review, attitude-towards-the-behavior and norm are significant explaining intention and attitude has once again a higher coefficient.

¹⁶ All variables, significant and nonsignificant are shown in figure AP6.8 in appendix 6.

As it was revealed in the prior models habit has an important impact in predicting intention. Habit-always has the highest β (4.18445), followed by regularly (3.30750) and then occasionally (1.02147).

The surprising result of this model is the gender variable (51GenderFem) been significant. Being a female led to an increase of intention (or being male a decrease).

Perceived Behavior Control, private sector factor and the public sector factor are the excluded variables that were not significant, with p-values > 0.05 .

Table 5.10 *Ambulatory Surgery Model – Multiple Regressions*

Prediction of Amb. Surgery Model	Model					Variables		
	N	R ²	Adj R2	F Value	PR > F	Variable	PE	PR > t
$I = f(AT+SN)$	330	0.5216	0.5187	178.3	<.0001	Intercept	2.07348	<.0001
						Attitude Factor SG	1.03543	<.0001
						19 Subjective Norm SG	0.82670	<.0001
$I = f(AT+SN+HA+HR+HO)$	321	0.6770	0.6719	132.03	<.0001	Intercept	2.09611	<.0001
						Attitude Factor SG	0.55338	0.0005
						19 Subjective Norm SG	0.40512	<.0001
						29A Habit Always SG	4.06902	<.0001
						29B Habit Regularly SG	3.65452	<.0001
29CHabit Occasionally SG	1.19162	<.0001						
$I = f(AT+SN+HA+HR+HO+IA+IB)$	321	0.6980	0.6813	103.26	<.0001	Intercept	1.91080	<.0001
						Attitude Factor SG	0.51633	0.0008
						19 Subjective Norm SG	0.40367	<.0001
						29A Habit Always SG	4.18255	<.0001
						29B Habit Regularly SG	3.24094	<.0001
						29CHabit Occasionally SG	1.01786	0.0003
						3A Private Insurance	1.05667	<.0001
3B Private Insurance	0.63882	0.0057						
$I = f(AT+SN+HA+HR+HO+IA+IB+Gen)$	321	0.7031	0.6955	92.37	<.0001	Intercept	1.65008	<.0001
						Attitude Factor SG	0.51825	0.0007
						19 Subjective Norm SG	0.39580	<.0001
						29A Habit Always SG	4.1845	<.0001
						29B Habit Regularly SG	3.3075	<.0001
						29CHabit Occasionally SG	1.0215	0.0002
						3A Private Insurance	0.98058	0.0003
						3B Private Insurance	0.63786	0.0054
51 Gender Female	0.48145	0.0213						

Source: SAS Enterprise Guide – survey data.

Hierarchical multiple regressions¹⁷, as shown in the table above, indicate that 0.5216 of the intention was predicted by attitude and subjective norm. As in the general practice model, this result is higher than the standard figures found in the literature (Forward, 2009, p. 199).

Adding to the first model the habit variables increased the R^2 by 0.1554. The consideration of the insurances variables added 0.02 to the explaining capacity of the model. Finally, the addition of the gender variable had a small impact with 0.0051 increase in the R^2 .

5.5. Hospitalization Model

After conducting multiple regressions, the variables which are significant in predicting intention ($p < 0.05$) to go to the private sector in case of hospitalization need are shown in the table below¹⁸. These results yielded a value of $R^2 = 0.7422$ (Adj. $R^2 = 0.7335$, F-value = 85.21 and p-value (F) < .0001).

Table 5.11 *Hospitalization Model Variables*

Variable	β (Parameter Estimate)	Standard Error	t Value	Pr > t
Intercept	2.36445	0.38892	6.08	<.0001
3A Private Insurance (you pay for it)	0.68087	0.26039	2.61	0.0094
3B Private Insurance (your company pays for you)	0.61614	0.22576	2.73	0.0067
3E National Health System	-0.48380	0.20694	-2.34	0.0201
20 Subjective Norm Hospitalization	0.18587	0.08048	2.31	0.0216
30A Habit Always Hospitalization	4.53522	0.42513	10.67	<.0001
30B Habit Regularly Hospitalization	3.58259	0.34486	10.39	<.0001
30C Habit Occasionally Hospitalization	1.33575	0.26789	4.99	<.0001
51 Gender Female	0.48433	0.20405	2.37	0.0183
Public Factor	-0.33644	0.11067	-3.04	0.0026
Attitude Factor Hospitalization	0.81107	0.15329	5.29	<.0001

Source: *SAS Enterprise Guide* – survey data.

¹⁷ Individual regressions on table AP6.4 in appendix 6.

¹⁸ All variables, significant and nonsignificant are shown in figure AP6.10 in appendix 6.

As stated in chapter 2.2 the private sector accounts for 25% of hospitalizations. Although it is not massively provided by the private sector, private hospitalizations have a relevant provision.

Having a health care insurance cover (paid directly – 3A Private Insurance or as an employee benefit – 3B Private Insurance) increases the intention to choose the private sector. 3E National Health System is an intriguing variable. It represents the National Health System and the public cover that all Portuguese citizens have (NHS is based on the universal access principal defined by law). For those people who claim (correctly) to have them it has a negative impact ($\beta = -0.48380$) on the intention to go to the private sector. A possible interpretation for this result is the more aware the person is that he/she owns the right to public health assistance the less the intention to go to he private sector.

Consistent with literature review, attitude ($\beta = 0.81107$, $p < 0.0001$) and subjective norm ($\beta = 0.18587$, $p < 0.05$) are significant in predicting intention. As all the previous results, habit is significant and each of its forms (always, regularly and occasionally) contributed significantly to the regression equation (β (HA) = 4.53522, β (HR) = 3.58259 and β (HO) = 1.33575). Again, people's intentions are consistent with their past behaviors.

Past experiences evaluation has in this model the first variable that is significant and interpretable. The public factor has a negative impact on the intention to go to the private sector, this means that who had a satisfied experience in the public sector will not intend to go to the private sector (or from the other perspective, people will choose to go to the private sector if they are unhappy with the public provision).

Comparing the five models, hospitalization by its nature and time-length, is likely to involve other evaluation concepts. Hospital environment, catering service, patient's amenities, service personalization and administrative responsiveness scored significantly higher for the private sector, as compared to the public (figure AP2.7, appendix 2) and are more closely related to hospitalization and might justify the public factor's negative impact.

Finally, gender has a significant ($p < 0.05$) impact on intention. Being a woman increases the intention to go to the private sector. Women might be more sensitive to the aspects highlighted above, but this is something worth future research.

Perceived Behavior Control and the Private factor were not significant in the prediction of intention with $p > 0.05$.

Table 5.12 *Hospitalization Model – Multiple Regressions*

Prediction of Intention Hospitalization Model	Model					Variables		
	N	R ²	Adj R2	F Value	PR > F	Variable	PE	PR > t
$I = f(AT+SN)$	337	0.5320	0.5292	189.88	<.0001	Intercept	2.33204	<.0001
						Attitude Factor HP	1.34043	<.0001
						20 Subjective Norm HP	0.68300	<.0001
$I = f(AT+SN+HA+HR+HO)$	329	0.7199	0.7156	166.04	<.0001	Intercept	2.33779	<.0001
						Attitude Factor HP	0.84710	<.0001
						20 Subjective Norm HP	0.19576	0.0164
						30A Habit Always HP	5.26563	<.0001
						30B Habit Regularly HP	4.08298	<.0001
30C Habit Occasionally HP	1.66190	<.0001						
$I = f(AT+SN+HA+HR+HO+PF)$	307	0.7203	0.7147	128.77	<.0001	Intercept	2.60151	<.0001
						Attitude Factor HP	0.85751	<.0001
						20 Subjective Norm HP	0.15359	0.0651
						30A Habit Always HP	5.07033	<.0001
						30B Habit Regularly HP	3.88528	<.0001
						30C Habit Occasionally HP	1.5753	<.0001
Public Factor	-0.35942	0.0017						
$I = f(AT+SN+HA+HR+HO+PF+IA+IB+IE)$	307	0.7373	0.7293	92.6	<.0001	Intercept	2.71383	<.0001
						Attitude Factor HP	0.82579	<.0001
						20 Subjective Norm HP	0.17450	0.0319
						30A Habit Always HP	4.45993	<.0001
						30B Habit Regularly HP	3.52643	<.0001
						30C Habit Occasionally HP	1.31364	<.0001
						Public Factor	-0.35322	0.0017
						3A Private Insurance	0.73684	0.0051
						3E National Health System	0.60762	0.0080
3B Private Insurance	-0.48542	0.0206						
$I = f(AT+SN+HA+HR+HO+PF+IA+IB+IE+Gen)$	307	0.7422	0.7335	85.21	<.0001	Intercept	2.36445	<.0001
						Attitude Factor HP	0.81107	<.0001
						20 Subjective Norm HP	0.18587	0.0216
						30A Habit Always HP	4.53522	<.0001
						30B Habit Regularly HP	3.58259	<.0001
						30C Habit Occasionally HP	1.33575	<.0001
						Public Factor	-0.33644	0.0026
						3A Private Insurance	0.68087	0.0094
						3E National Health System	0.61614	0.0067
						3B Private Insurance	-0.48380	0.0201
51 Gender Female	0.48433	0.0183						

Source: SAS Enterprise Guide – survey data.

After identifying the significant variables that predict intention, each variable was analyzed separately by conducting individual regression to compare the different impact in the explaining capacity of the model (table AP6.5, appendix 6). Then, after sorting the variables by R^2 , groups of variables were added as shown in the table above.

Attitude and subjective norm once again explain the biggest proportion of the Intention, 53%. This result reinforces the applicability of the TPB to this study and its powerful explaining capacity. The addition of Habit leads to a significant increase of 19% in explaining intention to go to the private sector. By adding the public factor, insurance covers and gender to the preceding variables the R^2 increased less than 1% at a time leading to a final result of 0.74.

6. CONCLUSIONS

6.1. Findings

The overall results of the present study provide support to the use of the Theory of Planned Behavior to understand the patient's intention and behavior to go to the private sector in the Portuguese health care system.

All models explained between 63% and 80% of the intention to go to the private sector.

The variables that were significant in the five models being tested in the present study are shown in the table below.

Table 6.1 *Significant coefficients for all regression equation models.*

Significant Coefficients in all Models	General Practice Consultation	Specialist Consultation	Emergency	Ambulatory Surgery	Hospitalization
Attitude	0.53652**	0.32683**	0.72742*	0.51825**	0.81107***
Subjective Norm	0.18133**	0.31593***	0.36715***	0.39580***	0.18587*
PBC	-0.09365*				
Private Sector					
Public Sector					-0.33644**
Habit Always	6.37309***	4.53561***	4.54232***	4.18445***	4.53522***
Habit Regularly	5.65575***	3.95872***	3.46617***	3.30750***	3.58259***
Habit Occasionally	2.54887***	1.49982**	1.03564**	1.02147**	1.33575**
Insurance A (you pay for it)	0.53468*	0.61889**		0.98058**	0.68087**
Insurance B (company pays for you)		0.43921*		0.63786**	0.61614**
Insurance E (NHS)					-0.48380*
Education Level 9 th grade	3.25559**				
Gender Female				0.48145*	0.48433*

* P < 0.05, ** P < 0.01; ***P < 0.001

Source: *SAS Enterprise Guide* – survey data.

The first hypothesis stated that the higher the attitude toward the private sector, the higher a patient's intention to go to the private sector. The results on the attitude-toward-the-private-sector in the prediction of intention (shown in the table above) support this hypothesis. The attitude factor measured by good/ bad, disadvantageous/ advantageous and pleasant/ unpleasant is significant in the prediction of intention.

The second hypothesis assesses subjective norm, stating that the higher this variable would be (regarding the private sector), the higher a patient's intention to go to the private sector. This hypothesis was also supported by the results with subjective norm being significant in all five models.

The following hypothesis focused on Perceived Behavior Control being able to predict intention in the health care sector choice. This hypothesis was not supported by the results. Even though PBC was significant in the general practice consultation model having a negative impact on intention, it was not consistent in the prediction of intention in the other models.

The next two hypotheses assessed the past experiences impact in the intention to go to the private sector. Hypothesis four (*H4*) stated that the better past experiences with the private sector, the higher the intention to go to the private sector and hypothesis five (*H5*) stated that the worse past experiences with the public sector, the higher a patient's intention to go to the private sector. Both hypotheses have not been supported by the results. None of the private sector coefficients were significant. The public sector evaluation had only one negative coefficient in the Hospitalization model.

Next, the assessment of other behavioral or non-behavioral variables predicting intention was supported by the results. The behavioral variable habit proved to be significant in all the models and some specific variables as insurance covers, the 9th grade education level and gender (female) proved to be significant non-behavioral variables. According to Ajzen and Manstead (2007, p. 57) demographic variables have limited value as there are usually not significant across different studies. Even so, these are important in the present study to predict intention.

Finally, the last hypothesis (*H7*) stated that the constructs used to predict intention and behavior would differ for general practice medical consultation, specialist medical consultation, emergency assistance, ambulatory surgery and hospitalization. This last hypothesis was supported by the results. Each model had different variables (other behavioral or non-behavioral) being significant with different interpretations associated with the health care area specificities.

6.2. Research Implications

This study **supports the application of the TPB** in the prediction of the intention to go to the private sector in the Portuguese health care system. In particular, attitude, subjective norm and habit were always significant predictors of intention. This research adds value to understand how intention and behavior are built in the health care environment between two specific health care suppliers: the private and public sectors.

The conceptualization of the TPB together with the service quality and patient satisfaction framework proved not to be compatible in the present study. The satisfaction factors in the private and public sector were nonsignificant and therefore did not add explaining capacity to the model.

The health care system has suffered and it is very likely that will continue to suffer severe changes. It is natural and reasonable that each sector would develop specific markets/health care areas where they have more interest in. The private sector would focus on efficiency while the public sector would concentrate on equity. This study gives **vision on how each sector can achieve their goals**.

The private health care providers should try to **influence the people's attitude** to increase their intention to go to the private sector. In particular, they should track and measure the instrumental nature (achievement of the behavior) and the experiential quality (performing behaviors feelings) of attitude.

Subjective norm plays a significant role in the people's intention to go to the private market. Private suppliers should review their positioning strategies in the market with the purpose of **pressure normative beliefs**.

Habit is naturally a difficult measure to control but the private health care providers should invest in **loyalty programs**, giving benefits to frequent patients. Having a health care insurance, which the person pays directly, proved to be relevant in four out of five models. Private health care providers in **partnership with health care insurances** could reinforce this private access channel to bring more people to the private sector, as this is a significant predictor of intention.

Some specific variables proved to be relevant in the prediction of intention in some specific markets, such as other insurance covers, gender and education. This is additional information that private suppliers should investigate.

6.3. Limitations of the Research

This first limitation of this study was the data collection process and the data sample. The optimal solution to collect data for this study would have been to create samples of patients in the five health care areas who had gone to the private sector (private hospital, clinic or doctor's office) and the public sector (public hospitals or health centers) during a period of time with data provided by the health care organizations. Despite the contacts made to the private health sector, no responses were obtained. The questionnaires were distributed online, leading to a relatively biased sample with a big proportion of the sample being single, young and female. As a result, caution should be applied when generalizing results.

Another limitation of this study is related to the fact that the public and private health care supplies have large regional asymmetries. Both private and public sectors have stronger provision in Lisbon and Oporto. Even though residence was a nonsignificant variable and twenty eight percent of the sample was not in those two areas, the fact is that even the rest of Portugal has significant asymmetries between cities, towns and villages.

An additional limitation of this study is closely related to the first one. Behavior could not be directly predicted, even though it is partially the result of intention. By effectively not knowing who did not go to the private sector in the last 12 months, either because the person went to the public sector or because the person simply did not need the medical consultation, behavior could not be predicted. If two data samples were provided by the two different sectors, behavior could have been studied.

6.4. Future Research

This study was based on quantitative analysis conducted by closed questions questionnaire. In future research **qualitative analysis** could be conducted using open questions. Descriptive research could be followed to assess other variables that might influence intention and behavior. These new variables should then be quantitatively analyzed. The hypothesis would be the increase of the explaining capacity of the model to predict intention with the addition of new variables.

It would be interesting to apply this analysis to **predict behavior**. Data should be collected in two points in time to assess intention and behavior. This would be done with the support of private health care organizations, as otherwise it would be hard to know who attended the private sector within the general population for each of the health care models.

This study was applied to a country which the health system was based on a national health system. It would be interesting to **apply the study to other countries** with the same base system (NHS) such as Spain and the UK, but also to countries with health systems based on social insurance, such as Germany, Belgium, France or the Netherlands.

REFERENCES

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior* (pp. 11- 39). Heidelberg, Germany: Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ajzen, I. (2002). Constructing a TPB Questionnaire: Conceptual and Methodological Considerations (pp. 13).
- Ajzen, I. (2008). Consumer attitudes and behavior. In C. P. Haugtvedt, P. M. Herr & F. R. Cardes (Eds.), *Handbook of Consumer Psychology* (pp. 525- 548). New York: Lawrence Erlbaum Associates.
- Ajzen, I., & Gilbert Cote. N. (2008). Attitudes and the prediction of behavior. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 289-311). New York: Psychology Press.
- Ajzen, I., & Manstead, A. S. R. (2007). Changing health-related behaviors: An approach based on the theory of planned behavior. In K. v. d. Bos, M. Hewstone, J. D. Wit, H. Schut & M. Stroebe (Eds.), *The scope of social psychology: Theory and applications* (pp. 43-63). New York: Psychology Press.
- Allin, S., Bankauskaite, V., Dubois, H., Figueras, J., Christina Golna, S. G.-T., Nadia Jemiai, David McDaid, & Annette Riesberg, J. S., Sarah Thomson. (2005). In S. Grosse-Tebbe & J. Figueras (Eds.), *Snapshots of health systems*. Copenhagen, Denmark: European Observatory on Health Systems and Policies.
- Anderson, J. C., & Gerbing, D. W. (1982). Some methods for respecifying measurement models to obtain unidimensional construct measurement. [Article]. *Journal of Marketing Research*, 19(4), 453-460.
- Angelopoulou, P., Kangis, P. & Babis, G. (1998). Private and public medicine: a comparison of quality perceptions. *International Journal of Health Care Quality Assurance*, 11(1), 14-20.
- APS (2009). *Os seguros de saúde privados no contexto do sistema de saúde português*. Lisbon: Associação Portuguesa de Seguradores.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behavior: A

- meta-analytic review. *The British Psychological Society*, (40), 471-499.
- Baptista, M. (2008, April 14). Hospital da Luz fez 70 mil urgências num só ano. *Diário Económico*. Retrieved from <http://www.hospitaldaluz.pt/upload/5/clipping/20080414DEHLuz1ano.pdf>
- Barros, P. P. (2005). *Economia da Saúde: Conceitos e Comportamentos*. Coimbra: Edições Almedina.
- Barros, Pedro Pita; Simões, Jorge de Almeida. (2007). Portugal Health system review. In S. Allin & E. Mossialos (Eds.), *Health Systems in Transition* (Vol. 9). Padstow: European Observatory on Health Systems and Policies.
- Camilleri, D. (1998). Comparing Public and Private Hospital Care Service Quality. [Research paper]. *International Journal of Health Care Quality Assurance*, 11(4), 127-133.
- Campos, A. (2008). *Reformas da Saúde. O fio Condutor*. Coimbra.
- Choi, K.-S., Cho, W.-H., Lee, S., Lee, H., & Kim, C. (2004). The relationships among quality, value, satisfaction and behavioural intention in health care provider choice: A South Korean study. *Journal of Business Research*, 57, 913-921.
- Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A Review and Avenues for Further Research. *Journal of Applied Social Psychology*, 28(15), 1429-1464.
- Fisk, A. T., Brown, C. A., Cannizzaro, K. & Naftal, B. (1990). Creating Patient Satisfaction and Loyalty. *Journal of Health Care Marketing*, 10(2), 5-15.
- Folland, S., Goodman, A. C., & Stano, M. (2010). *The Economics of Health and Health Care* (6th ed.). New Jersey.
- Forward, S. (2009). The theory of planned behaviour: the role of descriptive norms and past behavior in the prediction of drivers' intentions to violate. *Transportation Research Part F: Traffic Psychology and Behaviour*, 12(3), 198-207.
- Francis, J. J., Eccles, M. P., Johnston, M., Walker, A., Grimshaw, J., Foy, R., et al. (2004). *Constructing Questionnaires Based on the Theory of Planned Behavior a Manual for Health Services Researchers*. Newcastle upon Tyne: Quality of Live and Management of Living Resources.
- Godin, G. (1993). The Theories of Reasoned Action and Planned Behavior: Overview of Findings. Emerging Research Problems and Usefulness for Exercise

- Promotion. *Journal of Applied Sport Psychology*, (5), 141-157.
- Godin, G., Valois, P., Lepage, L., & Desharnais, R. (1992). Predictors of smoking behaviour: an application of Ajzen's theory of planned behaviour. *British Journal of Addiction*, (87), 1335-1343.
- Gooding, S. K. S. (1995). Quality, Sacrifice, and Value in Hospital Choice. *Journal of Health Care Marketing*, 15(4), 24-31.
- Gupta, H. D. (2008). Identifying Health Care Quality Constituents. *Journal of Management Research*, 8(1), 18-28.
- Hardeman, W., Johnston, M., Johnston, D. W., Bonetti, D., Wareham, N. J., & Kinmonth, A. L. (2002). Application of the Theory of Planned Behaviour in Behaviour Change Interventions: A Systematic Review. *Psychology and Health*, 17(2), 123-158.
- Haugtvedt, C. P., Herr, P. M., & Cardes, F. R. (Eds.). (2008). *Consumer Attitudes and Behavior*. New York: Lawrence Erlbaum Associates.
- INE. (2010a). *Conta Satélite de Saúde 2000-2008 [National Health Accounts]*. Lisbon: National Statistics Institute.
- INE. (2010b). *Statistical Yearbook of Lisbon Region 2009*. Lisbon: National Statistics Institute.
- INE. (2010c). *Statistics Yearbook of Alentejo Region 2009*. Lisbon: National Statistics Institute.
- INE. (2010d). *Statistics Yearbook of Algarve Region 2009*. Lisbon: National Statistics Institute.
- INE. (2010e). *Statistics Yearbook of Centre Region 2009*. Lisbon: National Statistics Institute.
- INE. (2010f). *Statistics Yearbook of North Region 2009*. Lisbon: National Statistics Institute.
- INSA. (2007). *4th National Health Survey - 2005/2006*. Lisbon: National Institute of Health. Dr. Ricardo Jorge.
- Ishikawa, H., & Yano, E. (2008). Patient health literacy and participation in the health-care process. *Health Expectations*, 11(2), 113-122.
- ISP. (2010). *Estatísticas de Seguros 2009* (pp. 166): Portuguese Insurance and Pension Funds Supervisory Authority.

- Jabnoun, N. (2003). Comparing the quality of private and public hospitals. [Research paper]. *Journal of Managing Service Quality*, 13(4), 290-299.
- Jackson, C., Smith, A., & Conner, M. (2003). Applying an extended version of the Theory of Planned Behavior to physical activity. *Journal of Sports Sciences*, 21, 119-133.
- John, J. (1992). Patient Satisfaction: The impact of Past Experience. *Journal of Health Care Marketing*, 12(3), 56-64.
- Kotler, P., & Keller, K. L. (2009). *Marketing Management* (13th ed.). New Jersey, USA: Prentice Hall.
- OECD Health Data 2010: Statistics and Indicators*. (2010). Organization for Economic Co-Operation and Development.
- Oliveira, M. D., & Pinto, C. G. (2005). Health care reform in Portugal: an evolution of the NHS experience. *Health Economics*, 14(S1), S203-S220.
- Owusu-Frimpong, N., Nwankwo, S., & Dason, B. (2010). Measuring service quality and patient satisfaction with access to public and private healthcare delivery. *International Journal of Public Sector Management*, 23(3), 203-220.
- Privados asseguram 40% dos cuidados de saúde em Portugal. (2010. September 14). *Jornal de Negócios*. Retrieved from http://www.jornaldenegocios.pt/home.php?template=SHOWNEWS_V2&id=443307
- Ribeiro, J. M. (2009). *Saúde A Liberdade de Escolher* (1st ed.). Lisboa: Gradiva.
- Saúde: Cirurgia de Ambulatório cresceu perto de 24% em 2009 - Ministério. (2010. March 7). *Jornal Expresso*. Retrieved from <http://aeiou.expresso.pt/saude-cirurgia-de-ambulatorio-cresceu-perto-de-24-por-cento-em-2009-ministerio=f569529>
- Singh, J. (1991). Understanding the Structure of Consumers' Satisfaction Evaluations of Service Delivery. *Journal of the Academy of Marketing Science*, 19(3), 223-244.
- Solomon, M., Bamossy, G., Askegaard, S., & Hohh, M. K. (2006). *Consumer Behavior A European Perspective* (Third ed.). New Jersey (USA): Prentice Hall.
- Stone, T. H., Jawahar, I. M., & Kisamore, J. (2009). Using the theory of planned behavior and cheating justifications to predict academic misconduct. *Career Development International*, 14(3), 221-241.

- Taner, T. & Antony, J. (2006). Comparing public and private hospital care service quality in Turkey. *Leadership in Health Services*, 19(2), i-x.
- Taylor, S. A., & Cronin Jr., J. J. (1994). Modelling Patient Satisfaction and Service Quality. *Journal of Health Care Marketing*, 14(1), 34-44.
- Teo, T., & Lee, C. B. (2010). Explaining the intention to use technology among student teachers: An application of the Theory of Planned Behavior (TPB). *Campus-Wide Information Systems*, 27(2), 60-67.
- Torres, E., Vasques-Parraga, A., & Barra, C. (2009). The Path of Patient Loyalty and the Role of Doctor Reputation. *Health Marketing Quarterly*, 26(3), 25-38.
- Umeh, K. & Patel, R. (2004). Theory of planned behavior and ecstasy use: An analysis of moderator-interactions. *British Journal of Health Psychology*, 9(1), 1007-1026.
- Vilares, M. J. & Coelho, P. S. (2005). *A Satisfação e Lealdade do Cliente. Metodologias de Gestão, Avaliação e Análise*. Lisboa: Escolar Editora.
- Yang, Z., McComas, K., Gay, G., Leonard, J., Dannenberg, A., & Dillon, H. (2010). Applying the theory of planned behavior to study health decisions related to potential risks. *Journal of Risk Research*, 13(8), 1007-1026.

APPENDIX 1 – HEALTH CARE INDICATORS

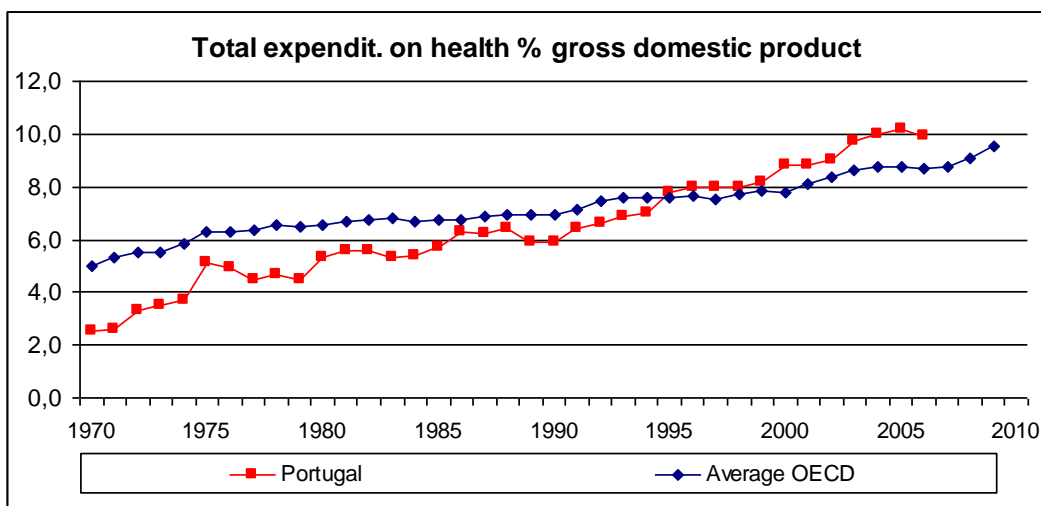


Figure AP1.1 Total expenditure as % of gross domestic product.

Source: OECE Health Data 2010.

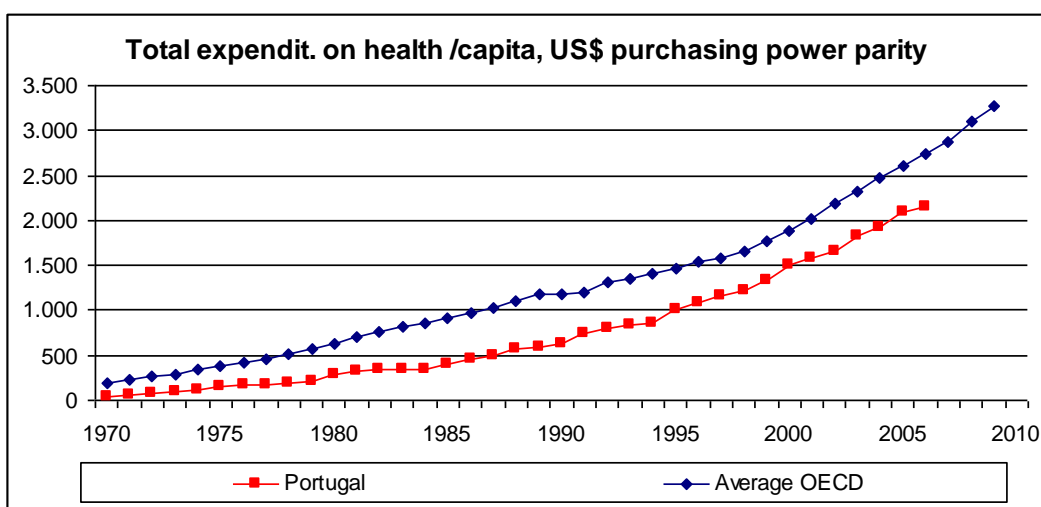


Figure AP1.2 Total expenditure on health per capita. US\$ purchasing power parity.

Source: OECE Health Data 2010.

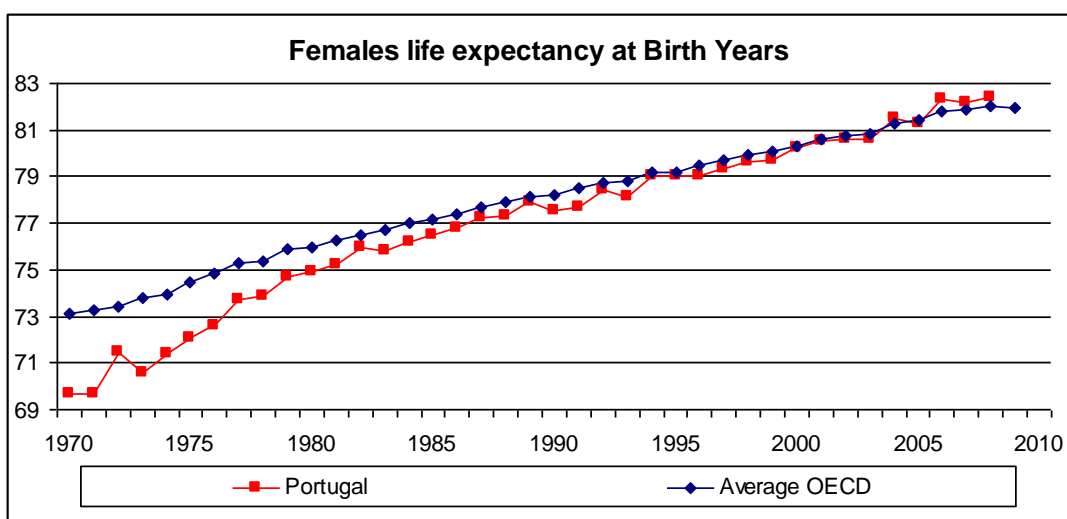


Figure AP1.3 Females life expectancy at birth years.

Source: OECE Health Data 2010.

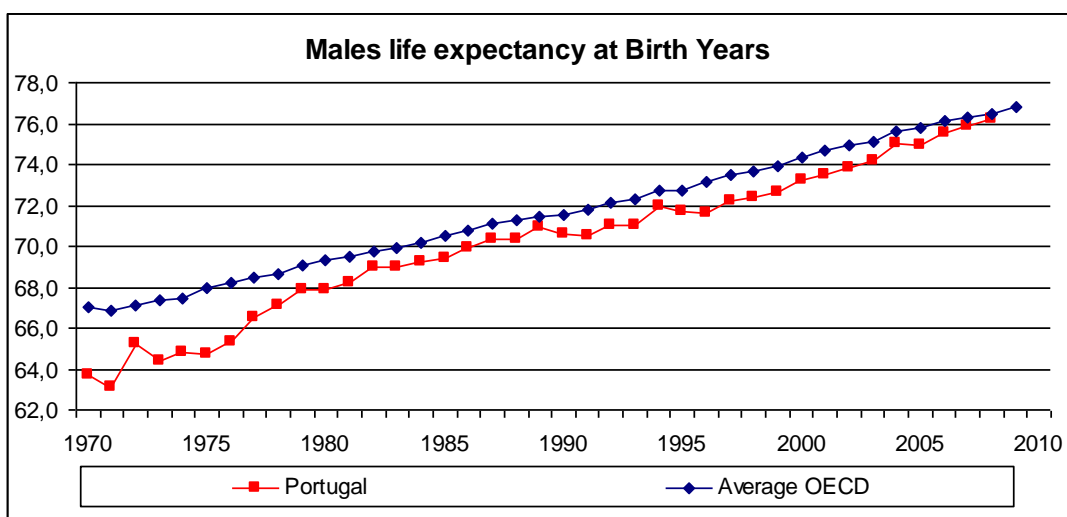


Figure AP1.4 Males life expectancy at birth years.

Source: OECE Health Data 2010.

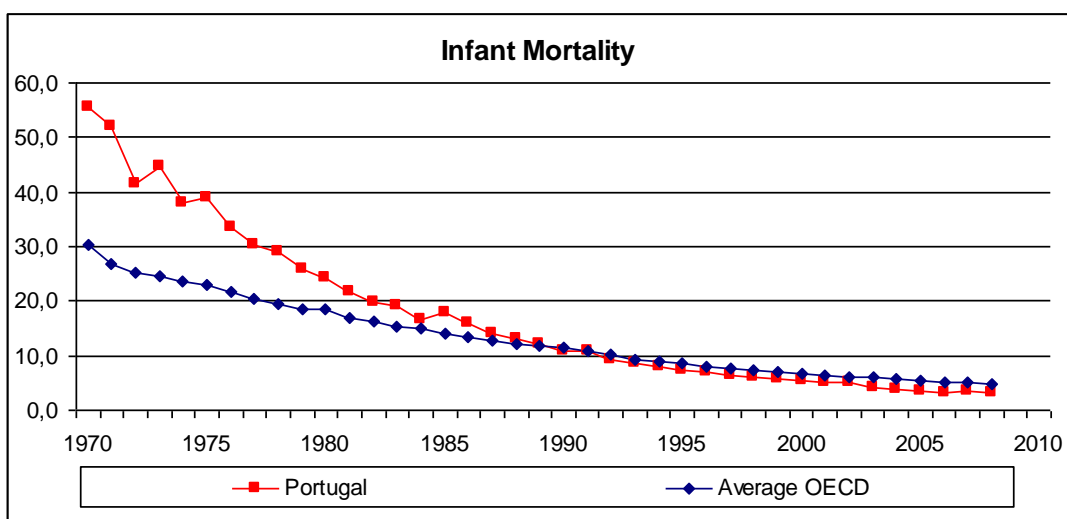


Figure AP1.5 Infant mortality.

Source: OECE Health Data 2010.

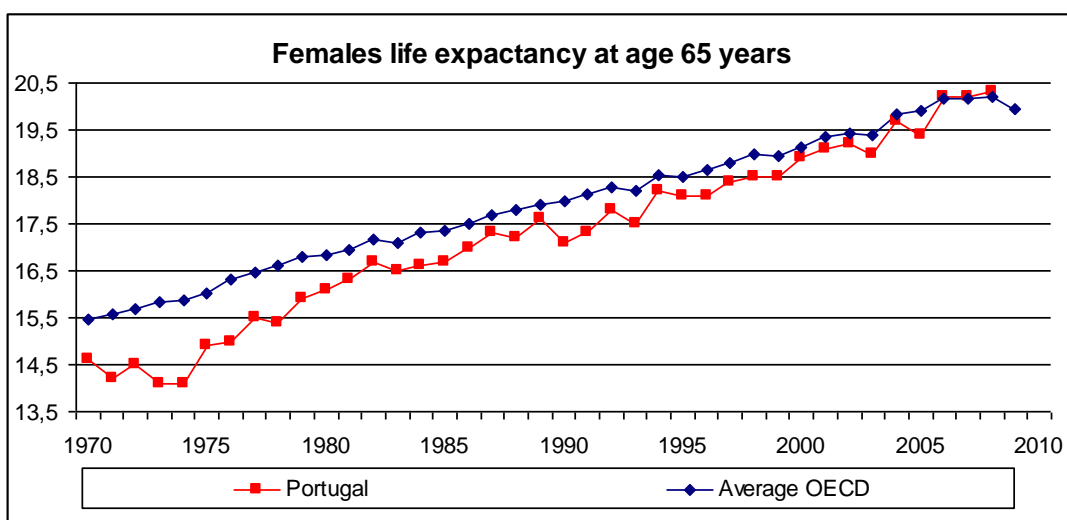


Figure AP1.6 Females life expectancy at age 65 years.

Source: OECE Health Data 2010.

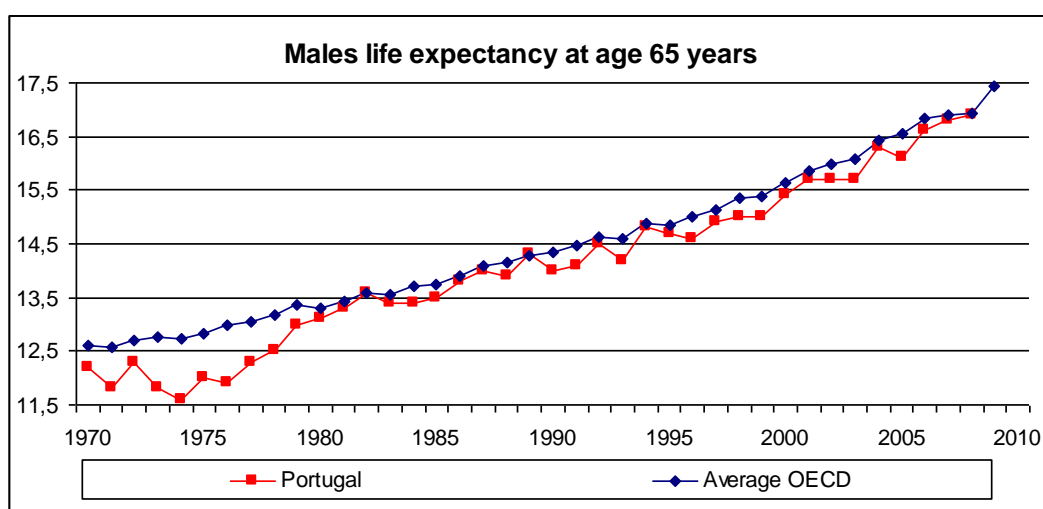


Figure AP1.7 Males life expectancy at age 65 years.

Source: OECE Health Data 2010.

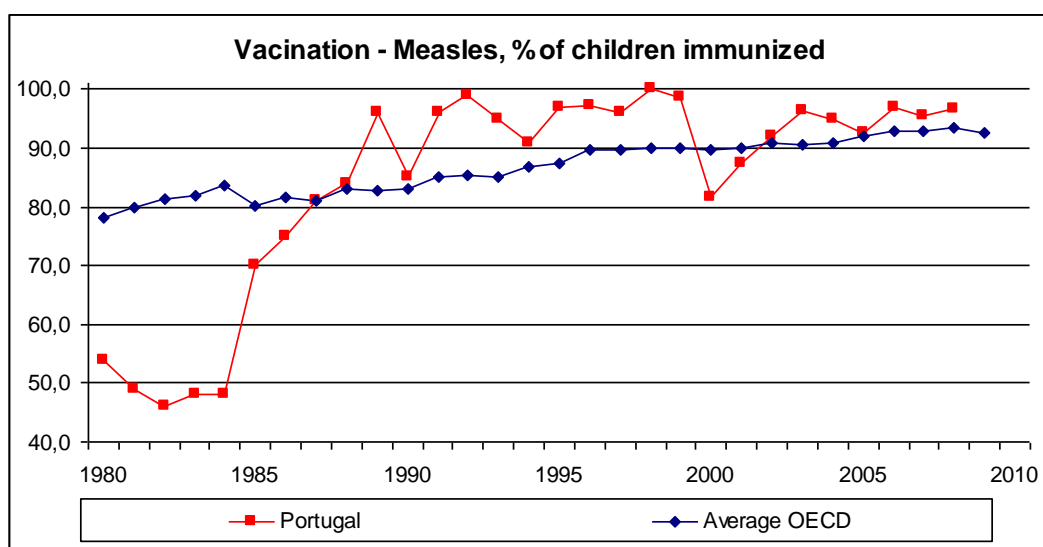


Figure AP1.8 Immunization: measles % of children immunized.

Source: OECE Health Data 2010.

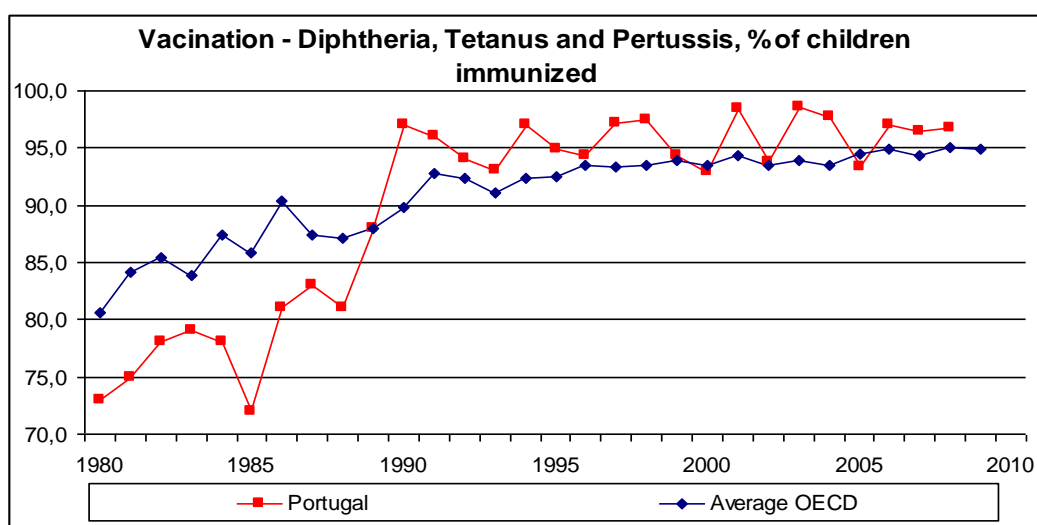


Figure AP1.9 Immunization: diphtheria, tetanus and pertussis % of children immunized.

Source: OECDE Health Data 2010.

Table AP1.1 Hospitals by Region 2008

Hospitals by region 2008	Hospitals			Equipment		In-patient flow		Personnel employed			
	Total	Official	Private	Beds	Surgery rooms	Hospitalisations	Days of hospitalisation	Total	Medical	Nurse	Other
Portugal	189	92	97	35 762	835	1 232 167	10 100 643	120 103	21 100	32 965	66 038
Continente	174	88	86	32 580	804	1 177 048	9 182 688	112 976	20 353	31 214	61 409
Alentejo	9	6	3	1 656	31	56 865	472 587	5 867	772	1 909	3 186
Algarve	7	3	4	896	23	40 913	288 147	3 913	486	1 264	2 163
Centro	46	30	16	8 315	177	263 881	2 206 745	24 557	4 094	7 999	12 464
Lisboa	55	24	31	11 228	309	382 598	3 259 045	42 434	8 345	11 305	22 784
Grande Lisboa	49	20	29	9 766	277	322 031	2 837 810	35 843	7 224	9 208	19 411
Lisboa	34	16	18	6 796	233	242 214	1 903 966	28 594	5 328	7 673	15 593
Norte	57	25	32	10 485	264	432 791	2 956 164	36 205	6 656	8 737	20 812
Grande Porto	28	14	14	4 963	154	206 121	1 346 648	20 029	3 705	3 696	12 628
Porto	20	9	11	3 605	112	140 625	949 479	13 945	2 671	2 391	8 883

Source: Statistics Yearbook for the region of Algarve, Alentejo, Center, Lisbon and North - INE (2010).

Table AP1.2 *Health Indicators by Region 2008 and 2009*

Health Indicators by region 2008 and 2009	Nurses per 1000 inhabitants	Physicians per 1000 inhabitants	Pharmacies and mobile medicine depots per 1000 inhabitants	Hospitalisations per 1000 inhabitants	Major and medium surgeries per day in health establishments	Medical appointments per inhabitant	Beds (practised allotment) per 1000 inhabitants at health establishments	Annual bed-occupancy rate in health establishments
	No.							%
	2009			2008				
Portugal	5,6	3,8	0,3	116,6	2 420,1	4,5	3,4	77,0
Continente	5,5	3,8	0,3	116,4	2 360,3	4,5	3,2	77,0
Alentejo	4,7	2,0	0,5	75,7	102,6	4,3	2,3	77,3
Algarve	4,7	3,0	0,3	96,2	67,5	3,3	2,2	87,7
Centro	5,5	3,3	0,3	110,8	508,1	4,6	3,5	72,5
Lisboa	5,9	5,4	0,3	136,0	747,4	4,4	4,0	79,5
Grande Lisboa	6,6	6,5	0,3	158,8	646,3	4,6	4,8	79,6
Lisboa	19,8	16,3	0,6	489,7	503,9	10,4	13,7	76,8
Norte	5,5	3,5	0,2	115,8	934,7	4,8	2,8	77,0
Grande Porto	7,2	6,7	0,3	160,7	536,1	6,3	3,9	74,3
Porto	23,8	19,7	0,5	642,3	364,2	12,7	16,5	72,2

Source: Statistics Yearbook for the region of Algarve, Alentejo, Center, Lisbon and North - INE (2010).

APPENDIX 2 – SURVEY PARTICIPANTS AND ANALYSIS

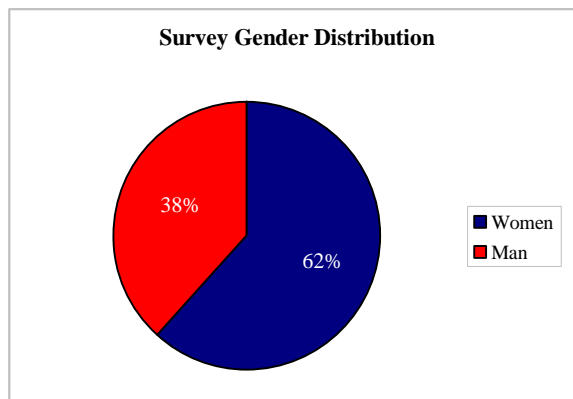


Figure AP2.1 Survey gender distribution.

Source: Survey data.

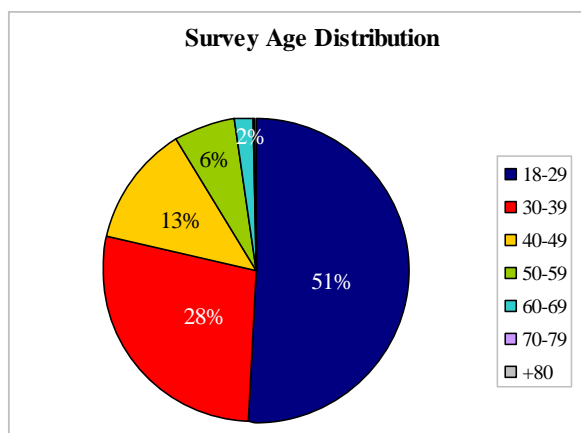


Figure AP2.2 Survey age distribution.

Source: Survey data.

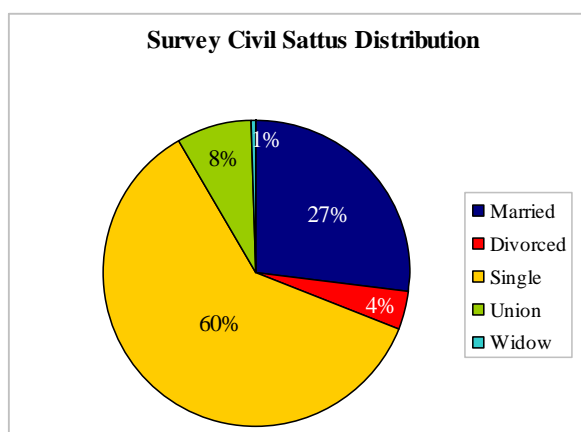


Figure AP2.3 Survey civil status distribution.

Source: Survey data.

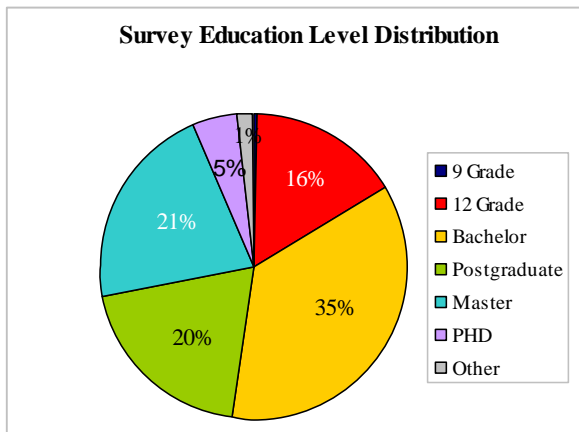


Figure AP2.4 Survey education level distribution.

Source: Survey data.

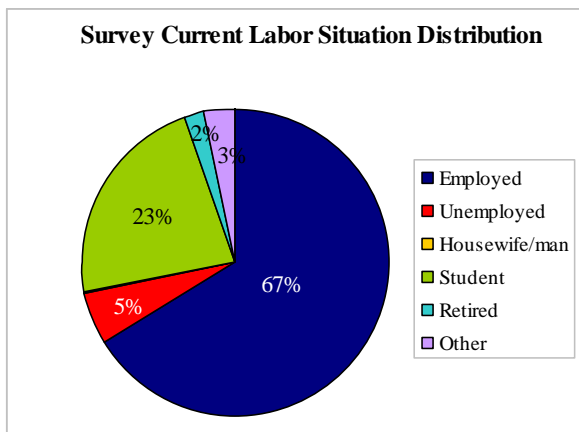


Figure AP2.5 Survey current labor situation distribution.

Source: Survey data.

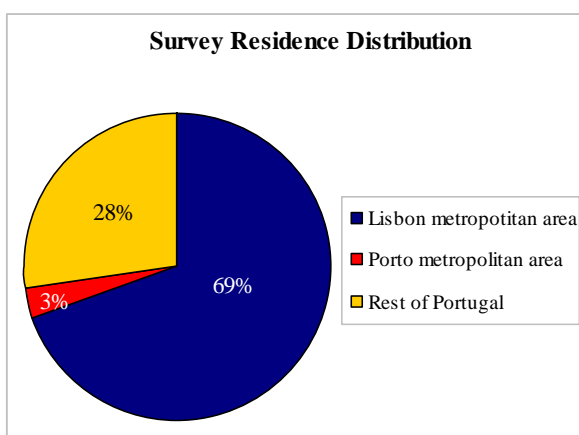


Figure AP2.6 Survey residence distribution.

Source: Survey data.

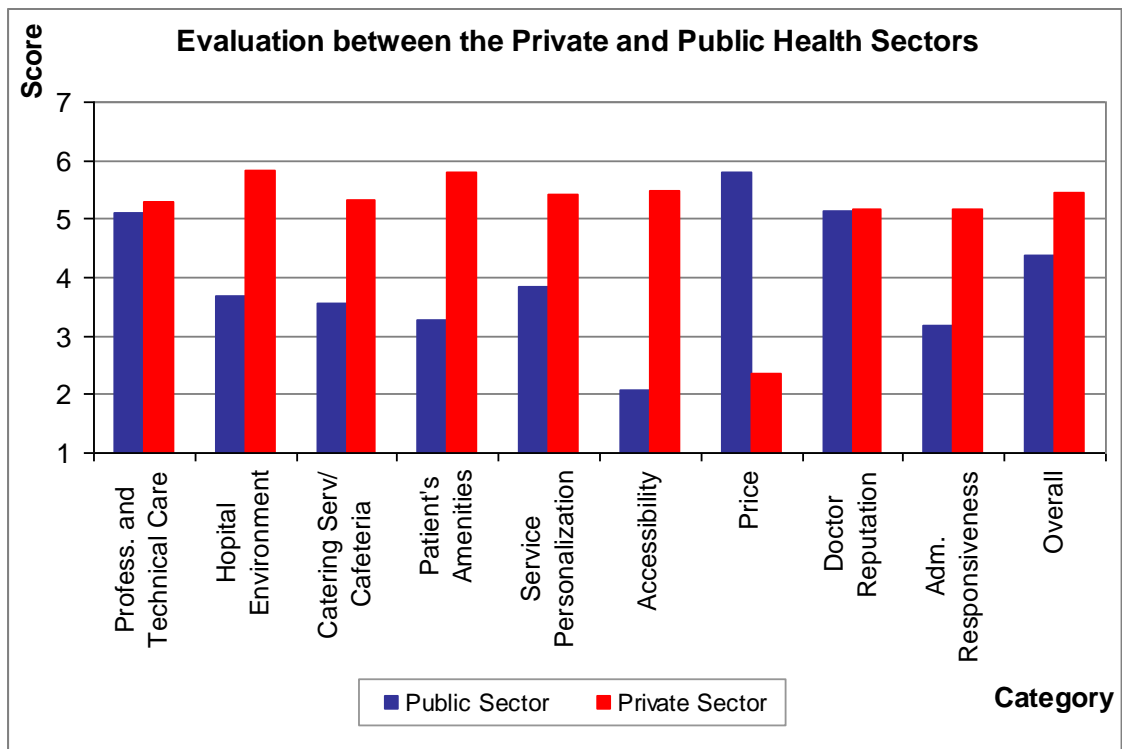


Figure AP2.7 Survey questions 31 to 50: patients' evaluations between the private sector and the public sector.

Source: Survey data.

APPENDIX 3 – QUESTIONNAIRE (ORIGINAL VERSION)

Questionário

1. Qual é o seu nível de interesse por questões relacionadas com o tema da saúde?

Muito fraco Muito forte

1 2 3 4 5 6 7

2. Considera importante estar informado sobre a saúde em geral?

Pouco importante Muito importante

1 2 3 4 5 6 7

3. Que tipo de cobertura de saúde tem? Pode escolher mais do que uma resposta
 - Seguro de saúde privado (pago pelo próprio)
 - Seguro de saúde privado (pago pela sua entidade patronal)
 - Seguro de saúde privado (por via de extensão do seu cônjuge ou outro familiar)
 - Subsistema de saúde (Ex. SAMS, ADSE, PT-ACS, SÁVIDA, etc.)
 - Sistema Nacional de Saúde
 - Outro

4. Durante os últimos doze meses recorreu a algum tipo de acto médico **privado**?
 - Sim
 - Não

5. Por favor, indique a que tipo de acto médico recorreu: Pode escolher mais do que uma resposta
 - Consulta médica de clínica geral
 - Consulta médica de especialidade
 - Serviço de urgência
 - Cirurgia em ambulatório (sem internamento)
 - Internamento
 - Outro

6. Imagine que precisa de uma consulta médica de clínica geral. Qual a probabilidade (em 100%) de escolher o sector **privado**?

0 - 10% 11-20% 21-30% 31-40% 41-50%
 51-60% 61-70% 71-80% 81-90% 91-100%

7. Imagine que precisa de uma consulta médica de especialidade. Qual a probabilidade (em 100%) de escolher o sector **privado**?

0 - 10% 11-20% 21-30% 31-40% 41-50%

51-60% 61-70% 71-80% 81-90% 91-100%

8. Imagine que precisa de assistência médica num episódio de urgência. Qual a probabilidade (em 100%) de escolher um serviço de urgência **privado**?

0 - 10% 11-20% 21-30% 31-40% 41-50%

51-60% 61-70% 71-80% 81-90% 91-100%

9. Imagine que precisa de uma cirurgia em ambulatório (sem internamento). Qual a probabilidade (em 100%) de escolher um hospital (ou clínica) **privado**?

0 - 10% 11-20% 21-30% 31-40% 41-50%

51-60% 61-70% 71-80% 81-90% 91-100%

10. Imagine que precisa de ser internado. Qual a probabilidade (em 100%) de escolher um hospital (ou clínica) **privado**?

0 - 10% 11-20% 21-30% 31-40% 41-50%

51-60% 61-70% 71-80% 81-90% 91-100%

11. Na sua opinião, escolher o sector **privado** em vez do público, no caso de precisar de uma consulta médica de clínica geral, seria:

a)

Má escolha	Boa escolha
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	<input type="checkbox"/> 7

b)

Desvantajoso	Vantajoso
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	<input type="checkbox"/> 7

c)

Desagradável	Agradável
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	<input type="checkbox"/> 7

12. Na sua opinião, escolher o sector **privado** em vez do público, no caso de precisar de uma consulta médica de especialidade, seria:

a)

Má escolha	Boa escolha
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	<input type="checkbox"/> 7

b)

Desvantajoso

 1 2 3 4 5 6

Vantajoso

 7

c)

Desagradável

 1 2 3 4 5 6

Agradável

 7

13. Na sua opinião, escolher um serviço de urgência **privado** em vez de um público, no caso de precisar assistência médica de emergência, seria:

a)

Má escolha

 1 2 3 4 5 6

Boa escolha

 7

b)

Desvantajoso

 1 2 3 4 5 6

Vantajoso

 7

c)

Desagradável

 1 2 3 4 5 6

Agradável

 7

14. Na sua opinião, escolher um hospital (ou clínica) **privado** em vez de um público, no caso de precisar de cirurgia em ambulatório (sem internamento), seria:

a)

Má escolha

 1 2 3 4 5 6

Boa escolha

 7

b)

Desvantajoso

 1 2 3 4 5 6

Vantajoso

 7

c)

Desagradável

 1 2 3 4 5 6

Agradável

 7

15. Na sua opinião, escolher um hospital (ou clínica) **privado** em vez de um público, no caso de precisar de ser internado, seria:

a)

Má escolha

 1 2 3 4 5 6

Boa escolha

 7

b)

Desvantajoso

 1 2 3 4 5 6

Vantajoso

 7

c)

Desagradável	Agradável
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>16. Se precisar de uma <u>consulta médica de clínica geral</u>, a minha família/amigos são de opinião que deveria escolher o sector privado, em vez do público.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>17. Se precisar de uma <u>consulta médica de especialidade</u>, a minha família/amigos são de opinião que deveria escolher o sector privado, em vez do público.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>18. Se precisar de <u>assistência médica de emergência</u>, a minha família/amigos são de opinião que deveria escolher um serviço de urgência privado, em vez de um público.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>19. Se precisar de <u>cirurgia em ambulatório</u> (sem internamento), a minha família/amigos são de opinião que deveria escolher um hospital (ou clínica) privado, em vez de um público.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>20. Se precisar de ser <u>internado</u>, a minha família/amigos são de opinião que deveria escolher um hospital (ou clínica) privado, em vez de um público.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>21. A decisão de escolher o sector privado, se precisar de uma <u>consulta de médica de clínica geral</u>, depende totalmente da minha vontade.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1
<p>22. A decisão de escolher o sector privado, se precisar de uma <u>consulta de médica de especialidade</u>, depende totalmente da minha vontade.</p>	
Discordo plenamente	Concordo plenamente
<input type="checkbox"/> 1	<input type="checkbox"/> 7
<input type="checkbox"/> 2	<input type="checkbox"/> 6
<input type="checkbox"/> 3	<input type="checkbox"/> 5
<input type="checkbox"/> 4	<input type="checkbox"/> 4
<input type="checkbox"/> 5	<input type="checkbox"/> 3
<input type="checkbox"/> 6	<input type="checkbox"/> 2
<input type="checkbox"/> 7	<input type="checkbox"/> 1

23. A decisão de escolher o sector **privado**, se precisar de assistência médica de emergência, depende totalmente da minha vontade.
- Discordo plenamente Concordo plenamente
- 1 2 3 4 5 6 7
24. A decisão de escolher o sector **privado**, se precisar de cirurgia em ambulatório (sem internamento), depende totalmente da minha vontade.
- Discordo plenamente Concordo plenamente
- 1 2 3 4 5 6 7
25. A decisão de escolher o sector **privado**, se precisar de ser internado, depende totalmente da minha vontade.
- Discordo plenamente Concordo plenamente
- 1 2 3 4 5 6 7
26. Quando precisa de uma consulta médica de clínica geral, escolhe um médico **privado**:
- Sempre
 - Regularmente
 - Ocasionalmente
 - Nunca. Escolho sempre um médico do sector público.
27. Quando precisa de uma consulta médica de especialidade, escolhe um médico **privado**:
- Sempre
 - Regularmente
 - Ocasionalmente
 - Nunca. Escolho sempre um médico do sector público.
28. Quando precisa de assistência médica de emergência, escolhe um serviço de urgência **privado**:
- Sempre
 - Regularmente
 - Ocasionalmente
 - Nunca. Escolho sempre um serviço de urgência público.
29. Quando precisa de cirurgia em ambulatório (sem internamento), escolhe um hospital (ou clínica) **privado**:
- Sempre
 - Regularmente
 - Ocasionalmente
 - Nunca. Escolho sempre um hospital público.

30. Quando precisa de ser internado, escolhe um hospital (ou clínica) **privado**:

Sempre

Regularmente

Ocasionalmente

Nunca. Escolho sempre um hospital público.

31. Como avalia a qualidade do serviço dos profissionais de saúde e os seus conhecimentos técnicos, no sector **privado**?

Muito pobre Muito boa

1 2 3 4 5 6 7

32. Como avalia o ambiente hospitalar (apresentação geral, limpeza e mobiliário), no sector **privado**?

Muito pobre Muito bom

1 2 3 4 5 6 7

33. Como avalia o serviço de catering/cafetaria, no sector de saúde privado?

Muito pobre Muito bom

1 2 3 4 5 6 7

34. Como avalia o bem-estar dos doentes (conforto, privacidade e horas de visitas), no sector **privado**?

Muito pobre Muito bom

1 2 3 4 5 6 7

35. Como avalia as relações humanas (confidencialidade, informação prestada, atenção pessoal), no sector **privado**?

Muito pobre Muito bom

1 2 3 4 5 6 7

36. Como avalia a acessibilidade (lista de espera, tempo de espera), no sector **privado**?

Muito pobre Muito boa

1 2 3 4 5 6 7

37. Como avalia o preço, no sector **privado**?

Pouco acessível Muito acessível

1 2 3 4 5 6 7

38. Como avalia a reputação dos médicos, no sector **privado**?

Muito pobre Muito boa

1 2 3 4 5 6 7

39. Como avalia a eficiência administrativa, no sector **privado**?

Muito pobre

Muito boa

1 2 3 4 5 6 7

40. Como avalia a sua experiência passada, no sector **privado**?

Muito pobre

Muito boa Não tenho

1 2 3 4 5 6 7 experiência
neste sector.

41. Como avalia a qualidade do serviço dos profissionais de saúde e os seus conhecimentos técnicos, no sector **público**?

Muito pobre

Muito boa

1 2 3 4 5 6 7

42. Como avalia o ambiente hospitalar (apresentação geral, limpeza e mobiliário), no sector **público**?

Muito pobre

Muito bom

1 2 3 4 5 6 7

43. Como avalia o serviço de catering/cafetaria, no sector de saúde **público**?

Muito pobre

Muito bom

1 2 3 4 5 6 7

44. Como avalia o bem-estar dos doentes (conforto, privacidade e horas de visitas), no sector **público**?

Muito pobre

Muito bom

1 2 3 4 5 6 7

45. Como avalia as relações humanas (confidencialidade, informação prestada, atenção pessoal), no sector **público**?

Muito pobre

Muito boa

1 2 3 4 5 6 7

46. No sector **público**, como avalia a acessibilidade (lista de espera, tempo de espera)?

Muito pobre

Muito boa

1 2 3 4 5 6 7

47. Como avalia o preço, no sector público?

Pouco acessível							Muito acessível
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
48. Como avalia a reputação dos médicos, no sector público ?							
Muito pobre							Muito boa
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
49. Como avalia a eficiência administrativa, no sector público?							
Muito pobre							Muito boa
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
50. Como avalia a sua experiência passada, no sector público?							
Muito pobre					Muito boa	<input type="checkbox"/> Não tenho	
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	experiência neste sector.
51. Género							
<input type="checkbox"/> Feminino				<input type="checkbox"/> Masculino			
52. Idade							
<input type="checkbox"/> 18-29	<input type="checkbox"/> 30-39	<input type="checkbox"/> 40-49	<input type="checkbox"/> 50-59	<input type="checkbox"/> 60-69	<input type="checkbox"/> 70-79	<input type="checkbox"/> + 80	
53. Estado civil							
<input type="checkbox"/> Solteira(o)	<input type="checkbox"/> Casada(o)	<input type="checkbox"/> União de facto	<input type="checkbox"/> Divorciada(o)	<input type="checkbox"/> Viúva (o)			
54. Nível de escolaridade							
<input type="checkbox"/> 9º ano	<input type="checkbox"/> 12º ano	<input type="checkbox"/> Licenciatura (ou 1º ciclo de Bolonha)	<input type="checkbox"/> Pós-graduação	<input type="checkbox"/> Mestrado (ou 2º ciclo de Bolonha)	<input type="checkbox"/> Doutorado (ou 3º ciclo de Bolonha)	<input type="checkbox"/> Outro	
55. Situação laboral actual							
<input type="checkbox"/> Empregada (o)							
<input type="checkbox"/> Desempregada (o)							
<input type="checkbox"/> Estudante							
<input type="checkbox"/> Domestica (o)							
<input type="checkbox"/> Reformada (o)							
<input type="checkbox"/> Outro							
56. Residência							
<input type="checkbox"/> Grande Lisboa			<input type="checkbox"/> Grande Porto			<input type="checkbox"/> Resto of Portugal	

APPENDIX 4 – QUESTIONNAIRE (TRANSLATED VERSION)

Health Care Questionnaire

1. How strongly are you interested in health issues?

- Very weak Very strong
- 1 2 3 4 5 6 7

2. Do you think it is important to be informed about health in general?

- Not important Very important
- 1 2 3 4 5 6 7

3. What kind of health care coverage do you have? You can choose more than one answer

- Private insurance (you pay for it)
- Private insurance (your company pays for you)
- Private insurance (extension of your spouse or other relative coverage)
- Health care subsystem (Ex. SAMS. ADSE. PT-ACS. SÃVIDA. etc.)
- National Health Service
- Other

4. During the past 12 months did you attend to a private health care assistance consultation?

- Yes
- No

5. Please identify what kind of health care assistance: You can choose more than one answer

- General practice medical consultation
- Specialist medical consultation
- Emergency
- Ambulatory surgery (without hospitalization)
- Hospitalization
- Other

6. Imagine you need a general practice medical consultation. What is the probability out of 100 that you will choose a **private** health provider?

- 0 - 10% 11-20% 21-30% 31-40% 41-50%
- 51-60% 61-70% 71-80% 81-90% 91-100%

7. Imagine you need a specialist medical consultation. What is the probability out of 100 that you will choose a **private** health provider?
- 0 - 10% 11-20% 21-30% 31-40% 41-50%
- 51-60% 61-70% 71-80% 81-90% 91-100%
8. Imagine you need an emergency assistance. What is the probability out of 100 that you will choose a **private** health provider?
- 0 - 10% 11-20% 21-30% 31-40% 41-50%
- 51-60% 61-70% 71-80% 81-90% 91-100%
9. Imagine you need an ambulatory surgery (without hospitalization). What is the probability out of 100 that you will choose a **private** health provider?
- 0 - 10% 11-20% 21-30% 31-40% 41-50%
- 51-60% 61-70% 71-80% 81-90% 91-100%
10. Imagine you need hospitalization. What is the probability out of 100 that you will choose a private health provider?
- 0 - 10% 11-20% 21-30% 31-40% 41-50%
- 51-60% 61-70% 71-80% 81-90% 91-100%
11. In your opinion, to choose a **private** health care assistance instead of the public health care assistance if you need a general practice medical consultation would be:
- a)
- Bad Good
- 1 2 3 4 5 6 7
- b)
- Disadvantageous Advantageous
- 1 2 3 4 5 6 7
- c)
- Unpleasant Pleasant
- 1 2 3 4 5 6 7
12. In your opinion, to choose a **private** health care assistance instead of the public health care assistance if you need a specialist medical consultation would be:
- a)
- Bad Good
- 1 2 3 4 5 6 7
- b)

	Disadvantageous					Advantageous
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
c)						
	Unpleasant					Pleasant
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
13. In your opinion, to choose a private health care assistance instead of public health care assistance if you need <u>emergency assistance</u> would be:						
a)						
	Bad					Good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
b)						
	Disadvantageous					Advantageous
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
c)						
	Unpleasant					Pleasant
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
14. In your opinion, to choose a private health care assistance instead of public health care assistance if you need <u>ambulatory surgery</u> (without hospitalization) would be:						
a)						
	Bad					Good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
b)						
	Disadvantageous					Advantageous
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
c)						
	Unpleasant					Pleasant
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
15. In your opinion, to choose a private health care assistance instead of public health care assistance if you need <u>hospitalization</u> would be:						
a)						
	Bad					Good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
b)						
	Disadvantageous					Advantageous
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6 <input type="checkbox"/> 7
c)						

Unpleasant							Pleasant
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
16. My family/friends think I should choose private assistance instead of public assistance if I need a <u>general practice medical consultation</u> .							
Completely disagree				Completely agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
17. My family/friends think I should choose private assistance instead of public assistance if I need a <u>specialist medical consultation</u> .							
Completely disagree				Completely agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
18. My family/friends think I should choose private assistance instead of public assistance if I need <u>emergency assistance</u> .							
Completely disagree				Completely agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
19. My family/friends think I should choose private assistance instead of public assistance if I need <u>ambulatory surgery</u> (without hospitalization).							
Completely disagree				Completely agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
20. My family/friends think I should choose private assistance instead of public assistance if I need <u>hospitalization</u> .							
Completely disagree				Completely agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
21. If I need a <u>general practice medical consultation</u> to choose the private sector is entirely up to me.							
Strongly disagree				Strongly agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
22. If I need a <u>specialist medical consultation</u> to choose the private sector is entirely up to me.							
Strongly disagree				Strongly agree			
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	
23. If I need <u>emergency assistance</u> to choose the private sector is entirely up to me.							
Strongly disagree				Strongly agree			

1 2 3 4 5 6 7

24. If I need ambulatory surgery to choose the **private** sector is entirely up to me.

Strongly disagree

Strongly agree

1 2 3 4 5 6 7

25. If I need hospitalization to choose the **private** sector is entirely up to me.

Strongly disagree

Strongly agree

1 2 3 4 5 6 7

26. If you need a general practice medical consultation you would choose a private health care provider:

- Always
- Regularly
- Occasionally
- Never. I would always choose a public health care provider.

27. If you need a specialist medical consultation you would choose a private health care provider:

- Always
- Regularly
- Occasionally
- Never. I would always choose a public health care provider.

28. If you need emergency assistance you would choose a private health care provider:

- Always
- Regularly
- Occasionally
- Never. I would always choose a public health care provider.

29. If you need ambulatory surgery you would choose a private health care provider:

- Always
- Regularly
- Occasionally
- Never. I would always choose a public health care provider.

30. If you need hospitalization you would choose a private health care provider:

- Always
- Regularly
- Occasionally

Never. I would always choose a public health care provider.

31. How do you evaluate the service quality of professional and technical care in the **private** sector?

Very poor Very good
 1 2 3 4 5 6 7

32. How do you evaluate the hospital environment (general presentation, cleanliness and furniture) in the **private** sector?

Very poor Very good
 1 2 3 4 5 6 7

33. How do you evaluate the catering service/cafeteria in the **private** health sector?

Very poor Very good
 1 2 3 4 5 6 7

34. How do you evaluate the patient's amenities (comfort, privacy and visiting hours) in the **private** sector?

Very poor Very good
 1 2 3 4 5 6 7

35. How do you evaluate the service personalization (confidentiality, information given and personal attention) in the **private** sector?

Very poor Very good
 1 2 3 4 5 6 7

36. How do you evaluate the accessibility (waiting list and stay length) in the private **sector**?

Very poor Very good
 1 2 3 4 5 6 7

37. How do you evaluate price in the **private** sector?

Not accessible Very accessible
 1 2 3 4 5 6 7

38. How do you evaluate doctor's reputation in the **private** sector?

Very poor Very good
 1 2 3 4 5 6 7

39. How do you evaluate administrative responsiveness in the **private** sector?

	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
40.	How do you evaluate your past experience in the private sector?						
	Very poor					Very good	<input type="checkbox"/> I do not have
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7 experience in this sector.
41.	How do you evaluate the service quality of professional and technical care in the public sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
42.	How do you evaluate the hospital environment (general presentation, cleanliness and furniture) in the public sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
43.	How do you evaluate the catering service/cafeteria in the public health sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
44.	How do you evaluate the patient's amenities (comfort, privacy and visiting hours) in the public sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
45.	How do you evaluate the service personalization (confidentiality, information given and personal attention) in the public sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
46.	How do you evaluate the accessibility (waiting list and stay length) in the public sector?						
	Very poor						Very good
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
47.	How do you evaluate price in the public sector?						
	Not accessible						Very accessible
	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

48. How do you evaluate doctor's reputation in the **public** sector?
 Very poor Very good
 1 2 3 4 5 6 7
49. How do you evaluate administrative responsiveness in the **public** sector?
 Very poor Very good
 1 2 3 4 5 6 7
50. How do you evaluate your past experience in the **public** sector?
 Very poor Very good I do not have
 1 2 3 4 5 6 7 experience in
this sector.
51. Gender?
 Female Male
52. How old are you?
 18-29 30-39 40-49 50-59 60-69 70-79 + 80
53. Civil status
 Single Married Union Divorced Widow
54. What is your education level?
 9° grade 12° grade Bache lor Mast r Othe r
 Graduate PHD
55. Current labor situation:
 Employed
 Unemployed
 Student
 Housewife/man
 Retired
 Other
56. Where do you live
 Lisbon metropolitan area Porto metropolitan area Rest of Portugal

APPENDIX 5 – FACTOR ANALYSIS RESULTS

Input Data Type		Raw Data
Number of Records Read		350
Number of Records Used		287
N for Significance Tests		287

Means and Standard Deviations from 287 Observations		
Variable	Mean	Std Dev
31Privado	5.3693380	1.0256333
32Privado	5.8989547	0.9123659
33Privado	5.3658537	1.1535675
34Privado	5.8257840	0.9667355
35Privado	5.5156794	1.0898121
36Privado	5.4878049	1.0930603
37Privado	2.4529617	1.4254370
38Privado	5.2090592	1.1639342
39Privado	5.1742160	1.0827464
40Privado	5.4947735	1.1881439

Correlations										
	31Privado	32Privado	33Privado	34Privado	35Privado	36Privado	37Privado	38Privado	39Privado	40Privado
31Privado	1.00000	0.56688	0.38188	0.49535	0.55787	0.43132	0.24870	0.65269	0.54953	0.64718
32Privado	0.56688	1.00000	0.62327	0.70542	0.59062	0.53344	0.12673	0.42824	0.50987	0.53333
33Privado	0.38188	0.62327	1.00000	0.60290	0.48353	0.40702	0.16467	0.33346	0.38830	0.33176
34Privado	0.49535	0.70542	0.60290	1.00000	0.62653	0.52079	0.14881	0.43955	0.47671	0.51366
35Privado	0.55787	0.59062	0.48353	0.62653	1.00000	0.57179	0.24750	0.45498	0.53697	0.64476
36Privado	0.43132	0.53344	0.40702	0.52079	0.57179	1.00000	0.12474	0.36753	0.53949	0.48658
37Privado	0.24870	0.12673	0.16467	0.14881	0.24750	0.12474	1.00000	0.25884	0.24773	0.28631
38Privado	0.65269	0.42824	0.33346	0.43955	0.45498	0.36753	0.25884	1.00000	0.61467	0.55703
39Privado	0.54953	0.50987	0.38830	0.47671	0.53697	0.53949	0.24773	0.61467	1.00000	0.53614
40Privado	0.64718	0.53333	0.33176	0.51366	0.64476	0.48658	0.28631	0.55703	0.53614	1.00000

Figure AP5.1 Private sector FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.90232427									
31Privado	32Privado	33Privado	34Privado	35Privado	36Privado	37Privado	38Privado	39Privado	40Privado
0.90044783	0.89128621	0.89100365	0.90781564	0.92119862	0.92782235	0.87805949	0.86507870	0.90957368	0.90919459

Figure AP5.2 Private sector FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

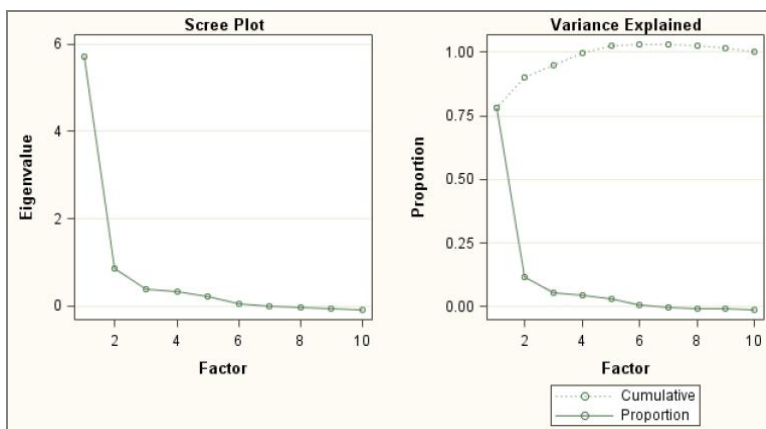


Figure AP5.3 Private sector FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.07309787									
31Privado	32Privado	33Privado	34Privado	35Privado	36Privado	37Privado	38Privado	39Privado	40Privado
0.06676142	0.08833356	0.09613481	0.08731188	0.04513082	0.05696771	0.06063412	0.09077734	0.05582753	0.06318198

Figure AP5.4 Private sector FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data
Number of Records Read	350
Number of Records Used	320
N for Significance Tests	320

Means and Standard Deviations from 320 Observations		
Variable	Mean	Std Dev
41Publico	5.1343750	1.2684029
42Publico	3.6968750	1.3385962
43Publico	3.5687500	1.2895620
44Publico	3.2937500	1.3488501
45Publico	3.8343750	1.5067475
46Publico	2.0750000	1.2114915
47Publico	5.8093750	1.3569418
48Publico	5.1593750	1.2123604
49Publico	3.1843750	1.4054550
50Publico	4.4031250	1.3308456

Correlations										
	41Publico	42Publico	43Publico	44Publico	45Publico	46Publico	47Publico	48Publico	49Publico	50Publico
41Publico	1.00000	0.41363	0.27319	0.26452	0.37418	0.22802	0.25352	0.62817	0.23576	0.44879
42Publico	0.41363	1.00000	0.70310	0.64151	0.52990	0.44706	-0.00602	0.27325	0.42637	0.49993
43Publico	0.27319	0.70310	1.00000	0.66057	0.54070	0.45017	0.02095	0.21453	0.39685	0.44501
44Publico	0.26452	0.64151	0.66057	1.00000	0.62865	0.52937	-0.06008	0.17448	0.41781	0.50836
45Publico	0.37418	0.52990	0.54070	0.62865	1.00000	0.43787	0.13017	0.30794	0.47780	0.60557
46Publico	0.22802	0.44706	0.45017	0.52937	0.43787	1.00000	-0.07518	0.17325	0.45028	0.41865
47Publico	0.25352	-0.00602	0.02095	-0.06008	0.13017	-0.07518	1.00000	0.39963	0.07766	0.19371
48Publico	0.62817	0.27325	0.21453	0.17448	0.30794	0.17325	0.39963	1.00000	0.26050	0.38361
49Publico	0.23576	0.42637	0.39685	0.41781	0.47780	0.45028	0.07766	0.26050	1.00000	0.49477
50Publico	0.44879	0.49993	0.44501	0.50836	0.60557	0.41865	0.19371	0.38361	0.49477	1.00000

Figure AP5.5 Public sector FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.85958746										
41Publico	42Publico	43Publico	44Publico	45Publico	46Publico	47Publico	48Publico	49Publico	50Publico	
0.76893994	0.86332989	0.86294942	0.87777582	0.90348119	0.91447742	0.65479254	0.74034355	0.90208884	0.91070408	

Figure AP5.6 Public sector FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

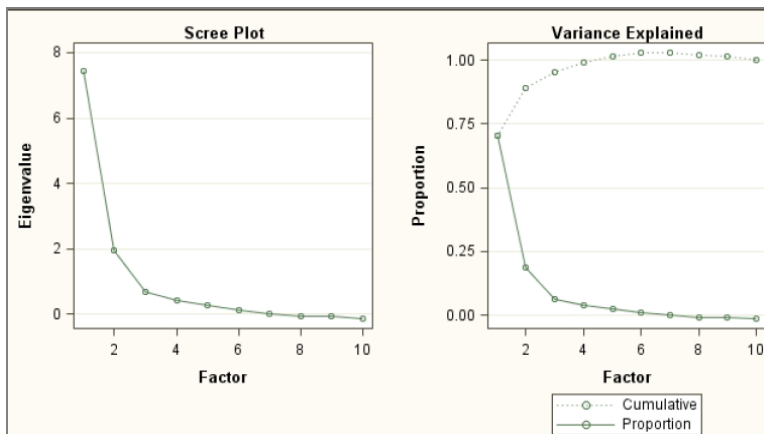


Figure AP5.7 Public sector FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.11363484									
41Publico	42Publico	43Publico	44Publico	45Publico	46Publico	47Publico	48Publico	49Publico	50Publico
0.16199842	0.07462944	0.09457266	0.10806314	0.03971018	0.08217078	0.15839587	0.19088189	0.05380606	0.06280869

Figure AP5.8 Public sector FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data
Number of Records Read	350
Number of Records Used	345
N for Significance Tests	345

Means and Standard Deviations from 345 Observations		
Variable	Mean	Std Dev
11AAttitude	4.3391304	1.8134845
11BAttitude	4.2753623	1.9565339
11CAttitude	4.9855072	1.6290669

Correlations			
	11AAttitude	11BAttitude	11CAttitude
11AAttitude	1.00000	0.81748	0.68751
11BAttitude	0.81748	1.00000	0.65975
11CAttitude	0.68751	0.65975	1.00000

Figure AP5.9 GPM: attitude FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.71885522		
11AAitude	11BAitude	11CAitude
0.67003774	0.68850941	0.84088940

Figure AP5.10 GPM: attitude FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

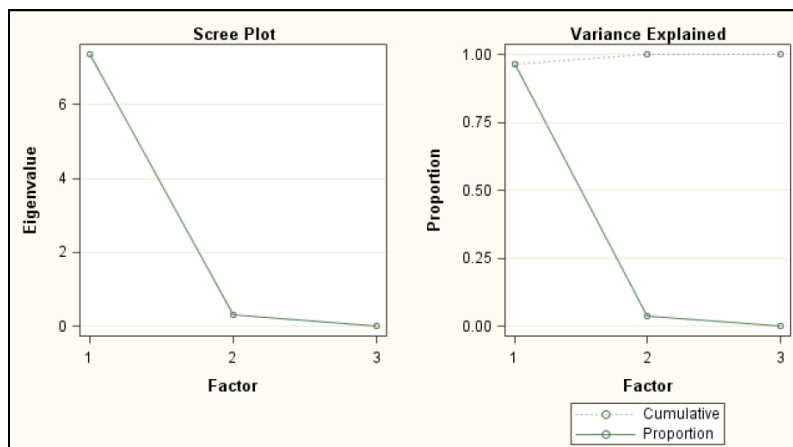


Figure AP5.11 GPM: attitude FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.02343044		
11AAitude	11BAitude	11CAitude
0.01211525	0.02664066	0.02811499

Figure AP5.12 GPM: attitude FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data	
Number of Records Read	350	
Number of Records Used	340	
N for Significance Tests	340	

Means and Standard Deviations from 340 Observations		
Variable	Mean	Std Dev
12AAttitudeSP	5.3558824	1.4713971
12BAttitudeSP	5.1000000	1.7486615
12CAttitudeSP	5.3911765	1.5806476

Correlations			
	12AAttitudeSP	12BAttitudeSP	12CAttitudeSP
12AAttitudeSP	1.00000	0.68777	0.68829
12BAttitudeSP	0.68777	1.00000	0.64536
12CAttitudeSP	0.68829	0.64536	1.00000

Figure AP5.13 SCM: attitude FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.73395573		
12AAttitudeSP	12BAttitudeSP	12CAttitudeSP
0.70957377	0.74788806	0.74735573

Figure AP5.14 SCM: attitude FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

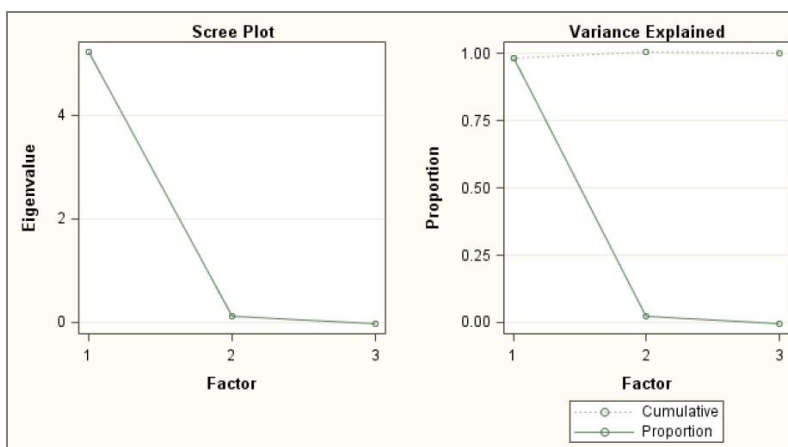


Figure AP5.15 SCM: attitude FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.01382322		
12AAttitudeSP	12BAttitudeSP	12CAttitudeSP
0.00479036	0.01635859	0.01681349

Figure AP5.16 SCM: attitude FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data	
Number of Records Read	350	
Number of Records Used	342	
N for Significance Tests	342	

Means and Standard Deviations from 342 Observations		
Variable	Mean	Std Dev
13AAttitudeER	4.1608187	1.8460983
13BAttitudeER	4.0964912	1.8695082
13CAttitudeER	4.7192982	1.7287059

Correlations			
	13AAttitudeER	13BAttitudeER	13CAttitudeER
13AAttitudeER	1.00000	0.83839	0.66109
13BAttitudeER	0.83839	1.00000	0.64177
13CAttitudeER	0.66109	0.64177	1.00000

Figure AP5.17 EM: attitude FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.70466012			
	13AAttitudeER	13BAttitudeER	13CAttitudeER
	0.65342979	0.66413410	0.86504987

Figure AP5.18 EM: attitude FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

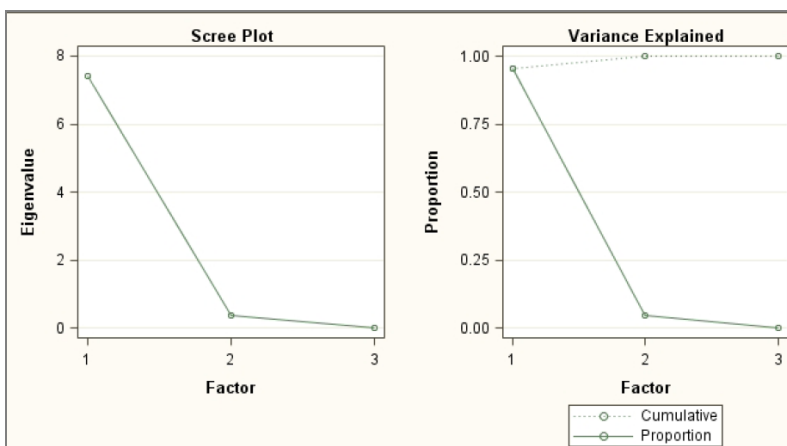


Figure AP5.19 EM: attitude FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.02883806		
13AAttitudeER	13BAttitudeER	13CAttitudeER
0.02025837	0.03014877	0.03428632

Figure AP5.20 EM: attitude FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data
Number of Records Read	350
Number of Records Used	338
N for Significance Tests	338

Means and Standard Deviations from 338 Observations		
Variable	Mean	Std Dev
14AAttitudeSG	4.6360947	1.7484539
14BAttitudeSG	4.4230769	1.8444721
14CAttitudeSG	4.9704142	1.6804904

Correlations			
	14AAttitudeSG	14BAttitudeSG	14CAttitudeSG
14AAttitudeSG	1.00000	0.82078	0.73456
14BAttitudeSG	0.82078	1.00000	0.70099
14CAttitudeSG	0.73456	0.70099	1.00000

Figure AP5.21 ASM: attitude FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.73448532		
14AAttitudeSG	14BAttitudeSG	14CAttitudeSG
0.68721711	0.71539035	0.82629287

Figure AP5.22 ASM: attitude FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

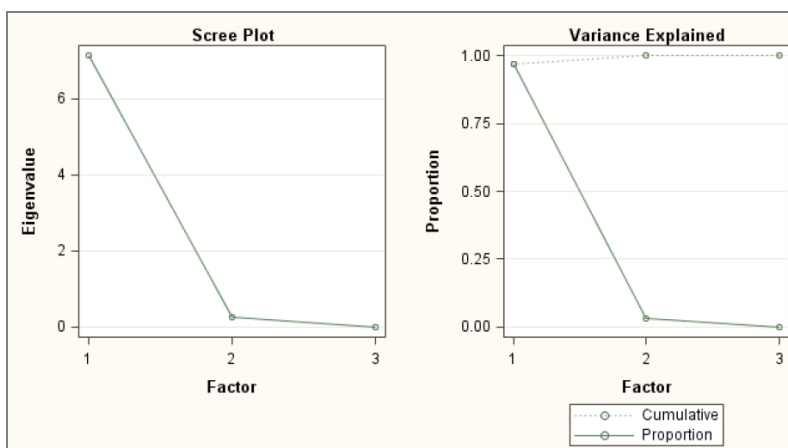


Figure AP5.23 ASM: attitude FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.02184327		
14AAttitudeSG	14BAttitudeSG	14CAttitudeSG
0.00979703	0.02568293	0.02599598

Figure AP5.24 ASM: attitude FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

Input Data Type	Raw Data
Number of Records Read	350
Number of Records Used	341
N for Significance Tests	341

Means and Standard Deviations from 341 Observations		
Variable	Mean	Std Dev
15AAttitudeHP	4.6275660	1.9217799
15BAttitudeHP	4.3489736	2.0010822
15CAttitudeHP	5.0938416	1.8270815

Correlations			
	15AAttitudeHP	15BAttitudeHP	15CAttitudeHP
15AAttitudeHP	1.00000	0.79029	0.70439
15BAttitudeHP	0.79029	1.00000	0.65388
15CAttitudeHP	0.70439	0.65388	1.00000

Figure AP5.25 HM: attitude FA. Means, standard deviations and correlations.

Source: SAS Enterprise Guide output - survey data.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.72385093		
15AAttitudeHP	15BAttitudeHP	15CAttitudeHP
0.67455012	0.71138317	0.81207108

Figure AP5.26 HM: attitude FA. Kaiser's measure of sampling adequacy.

Source: SAS Enterprise Guide output - survey data.

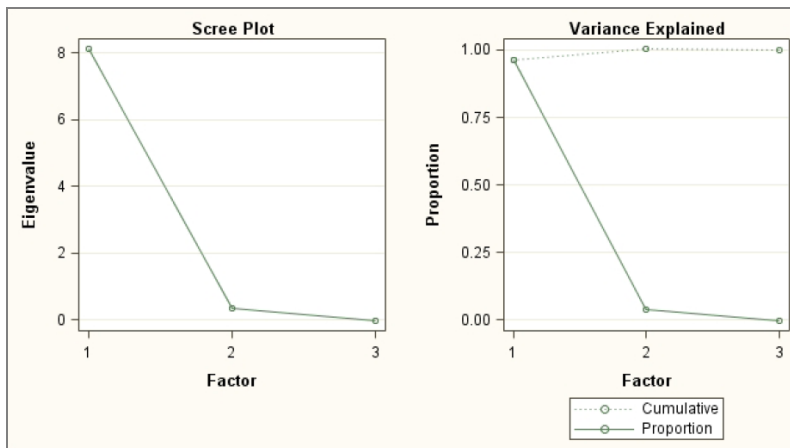


Figure AP5.27 HM: attitude FA. Scree plot and variance explained.

Source: SAS Enterprise Guide output - survey data.

Root Mean Square Off-Diagonal Residuals: Overall = 0.02666786		
15AAttitudeHP	15BAttitudeHP	15CAttitudeHP
0.00871001	0.03225988	0.03188981

Figure AP5.28 HM: attitude FA. Root mean square off-diagonal residuals.

Source: SAS Enterprise Guide output - survey data.

APPENDIX 6 – LINEAR REGRESSION RESULTS

Linear Regression Results					
The REG Procedure					
Model: Linear_Regression_Model					
Dependent Variable: 6Intencao					
Number of Observations Read					350
Number of Observations Used					341
Number of Observations with Missing Values					9
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	3407.39289	425.92411	163.76	<.0001
Error	332	863.47515	2.60083		
Corrected Total	340	4270.86804			
Root MSE		1.61271	R-Square	0.7978	
Dependent Mean		5.32551	Adj R-Sq	0.7930	
Coeff Var		30.28269			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.21565	0.33162	6.68	<.0001
3ASeguro	1	0.53468	0.23098	2.31	0.0212
16Norma	1	0.18133	0.07068	2.57	0.0107
21PBC	1	-0.09365	0.04657	-2.01	0.0451
26AHabitoSempre	1	6.37309	0.38897	16.38	<.0001
26BHabitoRegularmente	1	5.65575	0.33108	17.08	<.0001
26CHabitoOcasionalmente	1	2.54887	0.24117	10.57	<.0001
54Escolaridade9	1	3.25559	1.15332	2.82	0.0050
Atitude	1	0.53652	0.14027	3.82	0.0002

Figure AP6.1 General practice model results. Intention linear regression.

Source: SAS Enterprise Guide output - survey data.

Table AP6.1 General Practice Model – Individual Regressions

Prediction of Intention GP Model	Model				
	N	R ²	Adj R2	F Value	PR > F
$I = f(16 \text{ Subjective Norm GP})$	346	0.4863	0.4877	327.54	<.0001
$I = f(\text{Attitude Factor GP})$	343	0.4770	0.4754	310.95	<.0001
$I = f(26A \text{ Habit Always GP})$	346	0.2741	0.2812	134.6	<.0001
$I = f(26B \text{ Habit Regularly GP})$	346	0.2194	0.2217	97.99	<.0001
$I = f(3A \text{ Private Insurance})$	347	0.0810	0.0836	31.49	<.0001
$I = f(21 \text{ Perceived Behavior Control GP})$	347	0.0589	0.0616	22.66	<.0001
$I = f(\text{Private Factor})$	285	0.0480	0.0513	15.35	<.0001
$I = f(3E \text{ National Health System})$	347	0.0380	0.0408	14.67	0.0002
$I = f(26C \text{ Habit Occasionally GP})$	346	-0.0006	0.0023	0.79	0.3741
$I = f(54 \text{ Education Level 9}^{\text{th}} \text{ grade})$	347	-0.0027	0.0002	0.07	0.7905

Source: Survey data.

Dependent Variable: 6Intencao					
Number of Observations Read		350			
Number of Observations Used		264			
Number of Observations with Missing Values		86			
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	39	2666.37759	68.36866	27.30	<.0001
Error	224	560.98226	2.50439		
Corrected Total	263	3227.35985			
Root MSE		1.58252	R-Square	0.8262	
Dependent Mean		5.63258	Adj R-Sq	0.7959	
Coeff Var		28.09594			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	3.42432	1.93477	1.77	0.0781
1Interesse	1	0.08491	0.11529	0.74	0.4622
2Informacao	1	-0.00926	0.13388	-0.07	0.9449
3ASeguro	1	0.41641	0.27125	1.54	0.1262
3BSeguro	1	0.03703	0.27555	0.13	0.8932
3CSeguro	1	-0.61268	0.37633	-1.63	0.1049
3DSeguro	1	-0.45440	0.26321	-1.73	0.0857
3ESeguro	1	-0.65776	0.24328	-2.70	0.0074
3FSeguro	1	-1.04295	0.82970	-1.26	0.2101
4ConsultaPrivada	1	-0.00593	0.27473	-0.02	0.9828
5ACliGeral	1	-0.02910	0.29257	-0.10	0.9209
16Norma	1	0.19273	0.08201	2.35	0.0196
21PBC	1	-0.12135	0.05915	-2.05	0.0414
26AHabitoSempre	1	5.95366	0.48691	12.23	<.0001
26BHabitoRegularmente	1	5.29860	0.41629	12.73	<.0001
26CHabitoOcasionalmente	1	2.38761	0.29040	8.22	<.0001
51GeneroFem	1	0.17165	0.21646	0.79	0.4286
52Idade18_29	1	-1.57697	1.07205	-1.47	0.1427
52Idade30_39	1	-1.35046	1.04348	-1.29	0.1969
52Idade40_49	1	-0.79532	1.05275	-0.76	0.4508
52Idade50_59	1	-0.71471	1.11445	-0.64	0.5220
53EstCivilCas	1	0.05867	0.47817	0.12	0.9021
53EstCivilDiv	1	-0.35722	0.69068	-0.52	0.6055
53EstCivilSol	1	0.19844	0.46179	0.43	0.6678
54Escolaridade9	1	3.58433	1.76133	2.04	0.0430
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
54Escolaridade12	1	0.05315	1.38745	0.04	0.9695
54EscolaridadeLic	1	0.15050	1.34147	0.11	0.9108
54EscolaridadePos	1	0.09947	1.33233	0.07	0.9406
54EscolaridadeMes	1	-0.11889	1.34818	-0.09	0.9298
54EscolaridadeDou	1	-0.26817	1.41933	-0.19	0.8503
55SitLaboralEmp	1	0.20964	0.66818	0.31	0.7540
55SitLaboralDes	1	0.03023	0.82756	0.04	0.9709
55SitLaboralEst	1	0.13459	0.73724	0.18	0.8553
55SitLaboralDom	1	0.46753	1.83164	0.26	0.7988
55SitLaboralRef	1	-2.70002	1.62410	-1.66	0.0978
56ResidenciaLis	1	0.29973	0.25443	1.18	0.2400
56ResidenciaPor	1	0.16424	0.80276	0.20	0.8381
Privado	1	-0.32736	0.12315	-2.66	0.0084
Publico	1	0.03221	0.12100	0.27	0.7903
Atitude	1	0.72948	0.17223	4.24	<.0001

Figure AP6.2 General practice model: significant and nonsignificant variables.

Source: SAS Enterprise Guide output - survey data.

Linear Regression Results					
The REG Procedure					
Model: Linear_Regression_Model					
Dependent Variable: 7IntentionSP					
Number of Observations Read					350
Number of Observations Used					331
Number of Observations with Missing Values					19
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	1382.50590	197.50084	84.93	<.0001
Error	323	751.11948	2.32545		
Corrected Total	330	2133.62538			
Root MSE		1.52494	R-Square	0.6480	
Dependent Mean		7.80665	Adj R-Sq	0.6403	
Coeff Var		19.53389			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.65795	0.45754	5.81	<.0001
3AInsurance	1	0.61889	0.22425	2.76	0.0061
3BInsurance	1	0.43921	0.19252	2.28	0.0232
17NormaSP	1	0.31593	0.06798	4.65	<.0001
27AHabitAlwaysSP	1	4.53561	0.43531	10.42	<.0001
27BHabitRegSP	1	3.95872	0.39472	10.03	<.0001
27CHabitOcaSP	1	1.49982	0.39341	3.81	0.0002
AttitudeFactor	1	0.32683	0.11985	2.73	0.0067

Figure AP6.3 Specialist model results. Intention linear regression.

Source: SAS Enterprise Guide output - survey data.

Table AP6.2 Specialist Consultation Model – Individual Regressions

Prediction of Intention SP Model	Model				
	N	R ²	Adj R2	F Value	PR > F
I = f(17 Subjective Norm SP)	343	0.3155	0.3135	157.16	<.0001
I = f(Attitude Factor SP)	336	0.3035	0.3014	145.55	<.0001
I = f(27C Habit Occasionally SP)	342	0.2726	0.2705	127.43	<.0001
I = f(27A Habit Always SP)	342	0.2187	0.2164	95.16	<.0001
I = f(3A Private Insurance)	345	0.0870	0.0843	32.67	<.0001
I = f(27B Habit Regularly SP)	342	0.0519	0.0491	18.60	<.0001
I = f(3B Private Insurance)	345	0.0467	0.0439	16.80	<.0001

Source: Survey data.

Dependent Variable: 7IntentionSP					
Number of Observations Read					350
Number of Observations Used					258
Number of Observations with Missing Values					92
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	39	863.11763	22.13122	11.46	<.0001
Error	218	421.05679	1.93145		
Corrected Total	257	1284.17442			
Root MSE		1.38977	R-Square	0.6721	
Dependent Mean		8.10465	Adj R-Sq	0.6135	
Coeff Var		17.14777			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.55241	3.56821	0.72	0.4752
1Interest	1	-0.09070	0.10461	-0.87	0.3869
2Information	1	0.07774	0.12278	0.63	0.5273
3AInsurance	1	0.57113	0.23903	2.39	0.0177
3BInsurance	1	0.51445	0.24593	2.09	0.0376
3CInsurance	1	-0.34887	0.32850	-1.06	0.2894
3DInsurance	1	-0.01416	0.23784	-0.06	0.9526
3EInsurance	1	-0.31969	0.20953	-1.53	0.1285
3FInsurance	1	-0.66405	0.74283	-0.89	0.3723
4PrivateConsultation	1	0.23463	0.34984	0.67	0.5031
5BSpacialist	1	0.00387	0.28427	0.01	0.9892
17NormaSP	1	0.32060	0.07475	4.29	<.0001
22PBCSP	1	0.04283	0.05144	0.83	0.4060
27AHabitAlwaysSP	1	3.69196	0.66377	5.56	<.0001
27BHabitRegSP	1	3.01156	0.61348	4.91	<.0001
27CHabitOcaSP	1	0.63409	0.59492	1.07	0.2877
51GenderFem	1	0.17198	0.19858	0.87	0.3874
52Age18_29	1	-1.31296	1.13592	-1.16	0.2490
52Age30_39	1	-1.13732	1.10829	-1.03	0.3059
52Age40_49	1	-0.59853	1.12113	-0.53	0.5940
52Age50_59	1	-0.53621	1.17616	-0.46	0.6489
53CSMarried	1	2.55598	2.22358	1.15	0.2516
53CSDivorced	1	2.51485	2.25765	1.11	0.2665
53CSSingle	1	2.75206	2.24033	1.23	0.2206
53CSUnion	1	2.72566	2.24178	1.22	0.2254
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
54Education9	1	-2.57102	1.83068	-1.40	0.1616
54Education12	1	-1.12518	1.69806	-0.66	0.5083
54EducationBachelor	1	-1.30766	1.66642	-0.78	0.4335
54EducationPostgraduate	1	-1.06172	1.65956	-0.64	0.5230
54EducationMaster	1	-1.04235	1.67955	-0.62	0.5355
54EducationPHD	1	-1.25061	1.71043	-0.73	0.4655
55LaborEmployed	1	0.04784	0.61672	0.08	0.9382
55LaborUnemployed	1	0.31325	0.77782	0.40	0.6875
55LaborStudent	1	0.62091	0.67507	0.92	0.3587
55LaborHousewm	1	-0.66328	1.63792	-0.40	0.6859
55LaborRetired	1	-1.26113	1.53471	-0.82	0.4121
56ResidenceLisbon	1	0.15606	0.21787	0.72	0.4746
56ResidencePorto	1	0.00996	0.70791	0.01	0.9888
PrivateFactor	1	0.08149	0.11403	0.71	0.4756
PublicFactor	1	-0.12299	0.10542	-1.17	0.2446

Figure AP6.4 Specialist model results: significant and nonsignificant variables.

Source: SAS Enterprise Guide output - survey data.

Linear Regression Results					
The REG Procedure					
Model: Linear_Regression_Model					
Dependent Variable: 8IntentionER					
Number of Observations Read					350
Number of Observations Used					332
Number of Observations with Missing Values					18
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	2326.88978	465.37796	109.97	<.0001
Error	326	1379.62528	4.23198		
Corrected Total	331	3706.51506			
Root MSE		2.05718	R-Square		0.6278
Dependent Mean		4.82229	Adj R-Sq		0.6221
Coeff Var		42.65977			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.06291	0.31899	6.47	<.0001
18NormaER	1	0.36715	0.08715	4.21	<.0001
28AHabitAlwaysER	1	4.54232	0.52815	8.60	<.0001
28BHabitRegER	1	3.46617	0.37816	9.17	<.0001
28CHabitOcaER	1	1.03564	0.29711	3.49	0.0006
AttitudeFactorER	1	0.72742	0.16648	4.37	<.0001

Figure AP6.5 Emergency model results. Intention linear regression.

Source: SAS Enterprise Guide output - survey data.

Table AP6.3 Emergency Model – Individual Regressions

Prediction of Intention Specialty Model	Model				
	N	R ²	Adj R2	F Value	PR > F
$I = f(18 \text{ Subjective Norm ER})$	342	0.4181	0.4164	244.26	<.0001
$I = f(\text{Attitude Factor ER})$	338	0.4073	0.4055	230.85	<.0001
$I = f(28A \text{ Habit Always ER})$	342	0.2118	0.2095	91.36	<.0001
$I = f(28B \text{ Habit Regularly ER})$	342	0.2063	0.204	88.37	<.0001
$I = f(28C \text{ Habit Occasionally ER})$	342	0.0027	-0.0002	0.92	0.3387

Source: Survey data.

Dependent Variable: 8IntentionER					
Number of Observations Read					350
Number of Observations Used					253
Number of Observations with Missing Values					97
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	39	2015.33766	51.67532	14.47	<.0001
Error	213	760.66234	3.57118		
Corrected Total	252	2776.00000			
Root MSE		1.88976	R-Square	0.7260	
Dependent Mean		5.00000	Adj R-Sq	0.6758	
Coeff Var		37.79516			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	4.80745	2.29953	2.09	0.0377
1Interest	1	-0.03438	0.13978	-0.25	0.8060
2Information	1	-0.01749	0.16451	-0.11	0.9154
3AInsurance	1	0.60341	0.32747	1.84	0.0668
3BInsurance	1	0.31744	0.35260	0.90	0.3690
3CInsurance	1	-0.19509	0.44717	-0.44	0.6631
3DInsurance	1	0.60683	0.32518	1.87	0.0634
3EInsurance	1	-0.13370	0.29688	-0.45	0.6529
3FInsurance	1	1.25123	0.98938	1.26	0.2074
4PrivateConsultation	1	-0.35905	0.33885	-1.06	0.2905
5CEmergency	1	0.17922	0.40455	0.44	0.6582
18NormaER	1	0.28850	0.09658	2.99	0.0031
23PBCER	1	-0.04906	0.06547	-0.75	0.4545
28AHabitAlwaysER	1	4.43313	0.62864	7.05	<.0001
28BHabitRegER	1	3.50273	0.47765	7.33	<.0001
28CHabitOcaER	1	1.10820	0.34227	3.24	0.0014
51GenderFem	1	-0.04151	0.26374	-0.16	0.8751
52Age18_29	1	0.18279	1.31719	0.14	0.8898
52Age30_39	1	0.30495	1.28090	0.24	0.8121
52Age40_49	1	0.42421	1.29359	0.33	0.7433
52Age50_59	1	-0.54467	1.38000	-0.39	0.6935
53CSMarried	1	-0.18223	0.55965	-0.33	0.7450
53CSDivorced	1	0.26226	0.85867	0.31	0.7603
53CSSingle	1	-0.18443	0.54956	-0.34	0.7375
54Education9	1	-1.86194	2.11382	-0.88	0.3794
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
54Education12	1	-3.32502	1.67665	-1.98	0.0486
54EducationBachelor	1	-2.78479	1.61023	-1.73	0.0852
54EducationPostgraduate	1	-2.92270	1.60425	-1.82	0.0699
54EducationMaster	1	-3.24093	1.61685	-2.00	0.0463
54EducationPHD	1	-3.97832	1.69716	-2.34	0.0200
55LaborEmployed	1	0.63065	0.80467	0.78	0.4341
55LaborUnemployed	1	0.97382	1.03340	0.94	0.3471
55LaborStudent	1	0.77286	0.89331	0.87	0.3879
55LaborHousewm	1	2.06390	2.19446	0.94	0.3480
55LaborRetired	1	0.65701	1.94600	0.34	0.7360
56ResidenceLisbon	1	0.39501	0.30731	1.29	0.2001
56ResidencePorto	1	0.51897	0.97045	0.53	0.5934
PrivateFactor	1	-0.34759	0.14650	-2.37	0.0186
PublicFactor	1	-0.30987	0.15233	-2.03	0.0432
AttitudeFactorER	1	0.86955	0.20346	4.27	<.0001

Figure AP6.6 Emergency model: significant and nonsignificant variables.

Source: SAS Enterprise Guide output - survey data.

Linear Regression Results					
The REG Procedure					
Model: Linear_Regression_Model					
Dependent Variable: 9IntentionSG					
Number of Observations Read					350
Number of Observations Used					321
Number of Observations with Missing Values					29
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	2362.73095	295.34137	92.37	<.0001
Error	312	997.59304	3.19741		
Corrected Total	320	3360.32399			
Root MSE		1.78813	R-Square		0.7031
Dependent Mean		5.61059	Adj R-Sq		0.6955
Coeff Var		31.87064			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1.65008	0.36640	4.50	<.0001
3AInsurance	1	0.98058	0.26630	3.68	0.0003
3BInsurance	1	0.63786	0.22775	2.80	0.0054
19NormaSG	1	0.39580	0.08508	4.65	<.0001
29AHabitAlwaysSG	1	4.18445	0.42422	9.86	<.0001
29BHabitRegSG	1	3.30750	0.37422	8.84	<.0001
29CHabitOcaSG	1	1.02147	0.27446	3.72	0.0002
51GenderFem	1	0.48145	0.20805	2.31	0.0213
AttitudeFactorSG	1	0.51825	0.15170	3.42	0.0007

Figure AP6.7 Ambulatory surgery model results. Intention linear regression.

Source: SAS Enterprise Guide output - survey data.

Table AP6.4 Ambulatory Surgery Model – Individual Regressions

Prediction of Intention Amb. Surgery Model	Model				
	N	R ²	Adj R2	F Value	PR > F
$I = f(19 \text{ Subjective Norm SG})$	341	0.4665	0.465	296.46	<.0001
$I = f(\text{Attitude Factor SG})$	334	0.4016	0.3998	222.85	<.0001
$I = f(29A \text{ Habit Always SG})$	335	0.2969	0.2948	140.6	<.0001
$I = f(3A \text{ Private Insurance})$	345	0.1311	0.1286	51.75	<.0001
$I = f(29B \text{ Habit Regularly SG})$	335	0.1214	0.1188	46.02	<.0001
$I = f(3B \text{ Private Insurance})$	345	0.0513	0.0486	18.56	<.0001
$I = f(29C \text{ Habit Occasionally SG})$	335	0.0161	0.0132	5.47	0.0200
$I = f(51 \text{ Gender Female})$	345	0.0131	0.0102	4.56	0.0334

Source: Survey data.

Dependent Variable: 9IntentionSG					
Number of Observations Read		350			
Number of Observations Used		248			
Number of Observations with Missing Values		102			
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	39	1772.84443	45.45242	14.04	<.0001
Error	208	673.33944	3.23721		
Corrected Total	247	2445.98387			
Root MSE		1.79922	R-Square	0.7247	
Dependent Mean		5.99194	Adj R-Sq	0.6731	
Coeff Var		30.02743			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1.44883	2.28019	0.64	0.5222
1Interest	1	-0.21215	0.13771	-1.54	0.1250
2Information	1	0.10042	0.16382	0.61	0.5405
3AInsurance	1	0.71900	0.32092	2.24	0.0261
3BInsurance	1	0.23161	0.32313	0.72	0.4743
3CInsurance	1	-0.08451	0.42908	-0.20	0.8441
3DInsurance	1	-0.41041	0.31172	-1.32	0.1894
3EInsurance	1	-0.26611	0.28252	-0.94	0.3473
3FInsurance	1	0.97404	0.97443	1.00	0.3187
4PrivateConsultation	1	0.22234	0.32268	0.69	0.4915
5DSurgery	1	-0.62730	0.83445	-0.75	0.4530
19NormaSG	1	0.37709	0.10585	3.56	0.0005
24PBCSG	1	0.05142	0.06805	0.76	0.4508
29AHabitAlwaysSG	1	4.21124	0.54478	7.73	<.0001
29BHabitRegSG	1	3.40456	0.48275	7.05	<.0001
29CHabitOcaSG	1	1.14272	0.37022	3.09	0.0023
51GenderFem	1	0.87573	0.25154	2.69	0.0078
52Age18_29	1	1.37500	1.26818	1.08	0.2795
52Age30_39	1	0.77671	1.24076	0.63	0.5320
52Age40_49	1	1.03463	1.25066	0.83	0.4090
52Age50_59	1	1.03535	1.30592	0.79	0.4288
53CSMarried	1	0.23646	0.54849	0.43	0.6668
53CSDivorced	1	-0.02559	0.78760	-0.03	0.9741
53CSSingle	1	-0.00248	0.52111	-0.00	0.9962
54Education9	1	1.74384	2.01661	0.86	0.3882
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
54Education12	1	0.55524	1.59937	0.35	0.7288
54EducationBachelor	1	0.83772	1.52935	0.55	0.5844
54EducationPostgraduate	1	0.79699	1.51748	0.53	0.6000
54EducationMaster	1	0.75042	1.53323	0.49	0.6250
54EducationPHD	1	1.73149	1.83306	1.06	0.2903
55LaborEmployed	1	-1.15638	0.77486	-1.49	0.1371
55LaborUnemployed	1	-1.27355	0.96399	-1.32	0.1879
55LaborStudent	1	-1.65388	0.86298	-1.92	0.0567
55LaborHousewm	1	-2.16138	2.08922	-1.03	0.3021
55LaborRetired	1	-0.10770	1.89370	-0.06	0.9547
56ResidenceLisbon	1	-0.02624	0.29711	-0.09	0.9297
56ResidencePorto	1	-0.83154	0.91820	-0.91	0.3662
PrivateFactor	1	-0.05959	0.14355	-0.42	0.6785
PublicFactor	1	-0.01014	0.14256	-0.07	0.9434
AttitudeFactorSG	1	0.60771	0.18710	3.25	0.0014

Figure AP6.8 Ambulatory surgery model: significant and nonsignificant variables.

Source: SAS Enterprise Guide output - survey data.

Linear Regression Results					
The REG Procedure					
Model: Linear_Regression_Model					
Dependent Variable: 10IntentionHP					
Number of Observations Read					350
Number of Observations Used					307
Number of Observations with Missing Values					43
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	2521.38486	252.13849	85.21	<.0001
Error	296	875.91156	2.95916		
Corrected Total	306	3397.29642			
Root MSE		1.72022	R-Square	0.7422	
Dependent Mean		5.12378	Adj R-Sq	0.7335	
Coeff Var		33.57329			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	2.36445	0.38892	6.08	<.0001
3AInsurance	1	0.68087	0.26039	2.61	0.0094
3BInsurance	1	0.61614	0.22576	2.73	0.0067
3EInsurance	1	-0.48380	0.20694	-2.34	0.0201
20NormaHP	1	0.18567	0.08048	2.31	0.0216
30AHabitAlwaysHP	1	4.53522	0.42513	10.67	<.0001
30BHabitRegHP	1	3.58259	0.34486	10.39	<.0001
30CHabitOccaHP	1	1.33575	0.26789	4.99	<.0001
51GenderFem	1	0.48433	0.20405	2.37	0.0183
PublicFactor	1	-0.33644	0.11067	-3.04	0.0026
AttitudeFactorHP	1	0.81107	0.15329	5.29	<.0001

Figure AP6.9 Hospitalization model results. Intention linear regression.

Source: SAS Enterprise Guide output - survey data.

Table AP6.5 Hospitalization Model – Individual Variable Regressions

Prediction of Intention Hospitalization Model	Model				
	N	R ²	Adj R2	F Value	PR > F
I = f(20 Subjective Norm HP)	344	0.4648	0.4633	297.05	<.0001
I = f(Attitude Factor HP)	339	0.4578	0.4562	284.53	<.0001
I = f(30A Habit Always HP)	339	0.3149	0.3129	154.9	<.0001
I = f(30B Habit Regularly HP)	339	0.1517	0.1492	60.26	<.0001
I = f(Public Factor)	319	0.1405	0.1378	51.82	<.0001
I = f(3A Private Insurance)	347	0.1058	0.1032	40.81	<.0001
I = f(3E National Health System)	347	0.0477	0.0449	17.28	<.0001
I = f(3B Private Insurance)	347	0.0474	0.0447	17.18	<.0001
I = f(30C Habit Occasionally HP)	339	0.0061	0.0032	2.07	0.1508
I = f(51 Gender Female)	347	0.0047	0.0018	1.62	0.2046

Source: Survey data.

Dependent Variable: 10IntentionHP					
Number of Observations Read					350
Number of Observations Used					257
Number of Observations with Missing Values					93
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	39	2194.49467	56.26909	18.19	<.0001
Error	217	671.40416	3.09403		
Corrected Total	256	2865.89883			
Root MSE		1.75899	R-Square 0.7657		
Dependent Mean		5.53696	Adj R-Sq 0.7236		
Coeff Var		31.76804			
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	3.50915	2.19278	1.60	0.1110
1Interest	1	0.00369	0.13014	0.03	0.9774
2Information	1	-0.05655	0.15408	-0.37	0.7140
3AInsurance	1	0.59759	0.30217	1.98	0.0492
3BInsurance	1	0.64454	0.31173	2.07	0.0399
3CInsurance	1	0.54719	0.41928	1.31	0.1933
3DInsurance	1	0.12946	0.29823	0.43	0.6647
3EInsurance	1	-0.18491	0.27420	-0.67	0.5008
3FInsurance	1	0.85161	0.93814	0.91	0.3650
4PrivateConsultation	1	0.21148	0.29997	0.71	0.4816
5EHospitalization	1	-0.11995	0.64440	-0.19	0.8525
20NormaHP	1	0.14386	0.09577	1.50	0.1345
25PBCHP	1	0.00384	0.06227	0.06	0.9509
30AHabitAlwaysHP	1	4.52147	0.51229	8.83	<.0001
30BHabitRegHP	1	3.54985	0.43000	8.26	<.0001
30CHabitOcaHP	1	1.57323	0.33488	4.70	<.0001
51GenderFem	1	0.67425	0.24268	2.78	0.0059
52Age18_29	1	0.77486	1.29179	0.60	0.5492
52Age30_39	1	-0.15808	1.25541	-0.13	0.8999
52Age40_49	1	0.48267	1.29136	0.37	0.7089
52Age50_59	1	0.59772	1.35070	0.44	0.6586
53CSMarried	1	-0.01092	0.52524	-0.02	0.9834
53CSDivorced	1	0.89421	0.76743	1.17	0.2452
53CSSingle	1	-0.15509	0.50966	-0.30	0.7612
54Education9	1	0.08220	1.96998	0.04	0.9668
Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
54Education12	1	0.68300	1.54030	0.44	0.6579
54EducationBachelor	1	0.16693	1.48820	0.11	0.9108
54EducationPostgraduate	1	0.33273	1.47553	0.23	0.8218
54EducationMaster	1	0.36277	1.49393	0.24	0.8084
54EducationPHD	1	0.23686	1.57261	0.15	0.8804
55LaborEmployed	1	-1.77083	0.75226	-2.35	0.0195
55LaborUnemployed	1	-1.61838	0.93685	-1.73	0.0855
55LaborStudent	1	-2.22468	0.82805	-2.69	0.0078
55LaborHousewm	1	-1.89465	2.03567	-0.93	0.3530
55LaborRetired	1	-1.84826	1.85064	-1.00	0.3190
56ResidenceLisbon	1	-0.23045	0.28200	-0.82	0.4147
56ResidencePorto	1	-0.26767	0.89819	-0.30	0.7660
PrivateFactor	1	-0.09887	0.13990	-0.71	0.4805
PublicFactor	1	-0.23250	0.13970	-1.66	0.0975
AttitudeFactorHP	1	1.05398	0.18837	5.60	<.0001

Figure AP6.10 Hospitalization model: significant and nonsignificant variables.

Source: SAS Enterprise Guide output - survey data.

ANNEX – HEALTH CARE ANALYSIS

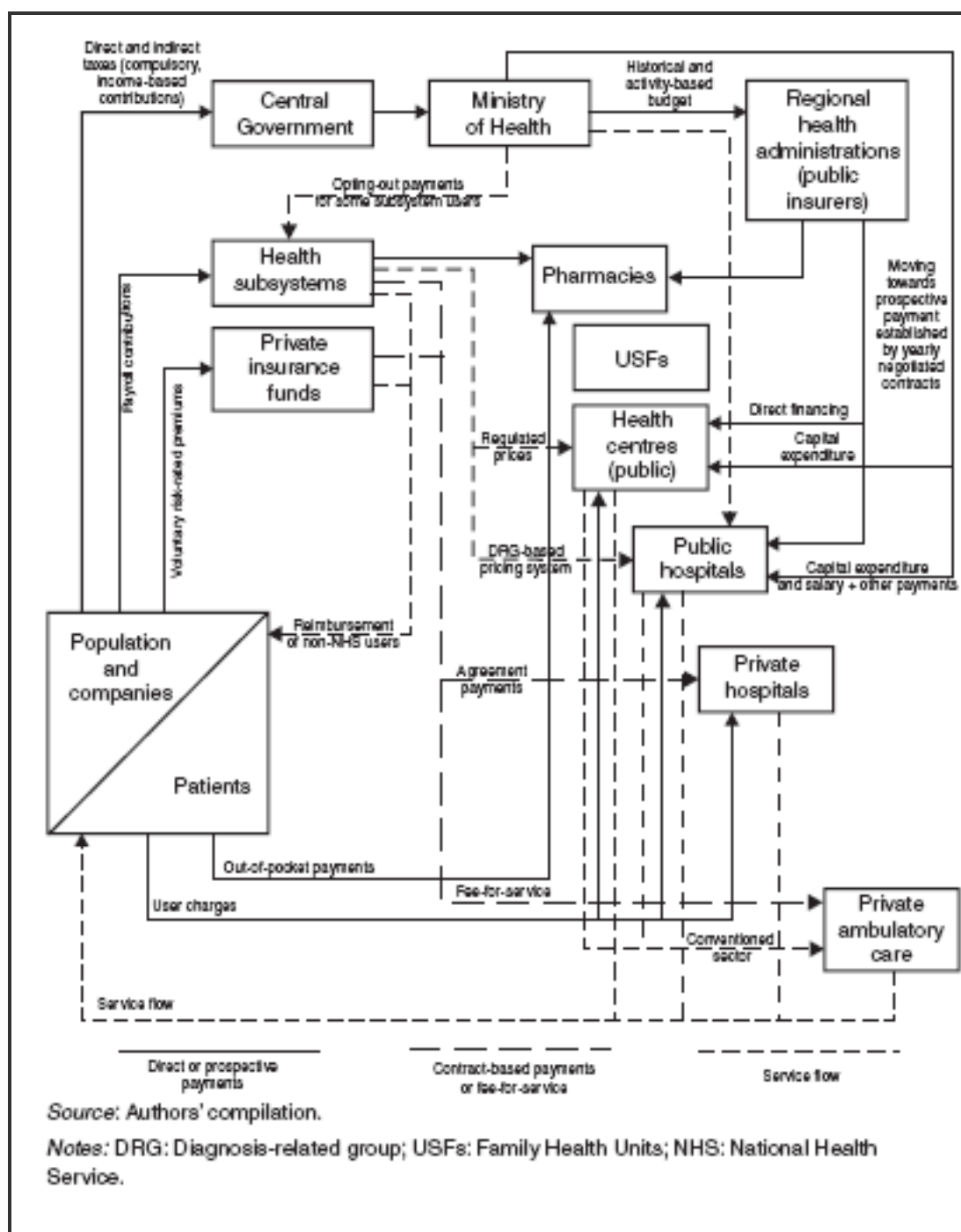


Figure AN.1 Overview of the health care system.

Source: Barros & Simões (2007).

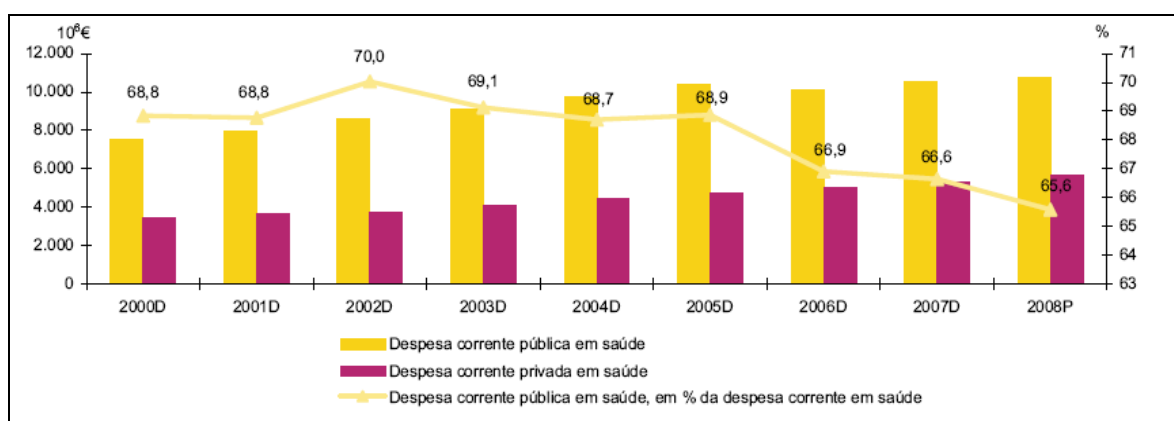


Figure AN.2 Private and public current health expenditure.

Source: *Conta Satélite da Saúde 2000-2008* [National Health Accounts]. INE (2010).



Figure AN.3 Health current expenditure by finance agent.

Source: *Conta Satélite da Saúde 2000-2008* [National Health Accounts]. INE (2010).



Figure AN.4 Current expenditure of families by provider.

Source: *Conta Satélite da Saúde 2000-2008* [National Health Accounts]. INE (2010).