Performance Assessment in the Public Sector

The Portuguese Health Care System Case Study

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Abstract

This work aimed to develop a theoretical approach of the *Balanced Scorecard* (BSC) methodology, for the *Portuguese National Health System* (NHS) as a strategic management and performance evaluation tool. After the analysis of the social economic environment to disclosure the NHS major challenges and limitations, we proceeded with the review of the mission, values, vision and strategy in order to develop the perspectives of the BSC. Due to the public nature of the NHS it was decided to build a five-perspective scorecard. Promoting the mission to the top of the scorecard, followed by clients/stakeholders and financial/budget perspectives with equal importance, finishing with internal processes and learning and growth by this order.

Afterwards fourteen objectives were assigned, distributed by the different perspectives, culminating this process in the preparation of the strategic map. In parallel, the measurement system was established, followed by the setting of targets and initiatives. Finally, a scorecard with 14 objectives and 45 indicators distributed by 5 perspectives was obtained.

The BSC was adapted to a public service, with huge dimensions, and proved to be flexible enough in order to accommodate all the elements that had to be considered. A practical implementation is left for future work.

Keywords: Balanced Scorecard, Management of health public services, performance evaluation, National Health System

1. Introduction

The purpose of this work is to study the possibility of applying and building a Balanced Scorecard model (BSC) for the health sector entities, being itself a performance assessment tool in order to measure the results of political and management policies.

Health is important for the well-being of people and society, but a healthy population is also a prerequisite for productivity and economic prosperity of the country (European Commission, 2006). At the Gothenburg European Council(2001) public health was referred as one of four priority areas for the sustainable development strategy, understood in three dimensions - social , environmental and economic . Health is recognized as a precondition, result and indicator of these same dimensions. The measures on social and environmental determinants of health, taking into account the entire population, are important to create equity, economically sustainable and healthy societies (UN, 2012).

According to Ferreira(2014) only 49 % of Portuguese with over 15 years claims to have a health status " Good " or " Very Good " , which contrasts with the results of European partners like Ireland with 83% , the UK with 79% and even our neighbor Spain with 72 % . -The rest feel " more or less" , "bad " or "very bad." Is this true self-assessment, statistically supported or is due to the collective Portuguese culture?

Health has a growing role in the economy. The state budget for 2010 allocated to health 5.77% of the available resources against 5.15% in 2009, a variation of 7.23 %, despite the contraction in 4.23% of the general budget, provided by INE(2015). According PORDATA(2015) data, the State health spending accounted for 6.2% of GDP in 2012, an increase of about 400% compared with 1977 (1.5%) and 100% taking into account the year 1990 (3.1 %). More curious still is the evolution in this decade, since 2010 to 2012 the GDP contracted 3.4 %. However State spending represented 5.4% and 6.2 % of GDP respectively, which is an important indicator for the rigidity of costs in health, which even with the austerity measures imposed by the government of Portugal reversed the weight of the increasing trend of health in GDP.

1.1. Portuguese socioeconomics environment

A national health system, whatever the country to serve, is shaped and shapes the economic and social context that surrounds it and in some aspects, is both cause and also effect of the system itself. According to data from the latest Census 2011, the resident population in Portugal is approximately 10.6 million people, living about 60% among large cities (INE, 2012). Although we continue to see a growth in population, growth rate reduced from 5 % in the 90s to 2% in the first decade of the 2000s. However, this population growth has been continuously accompanied by a reversal of the demographic pyramid, with an enlargement of the upper layers and a decrease in lower layers. Demographic change and in particular the aging population are changing patterns of disease and threaten the sustainability of health systems in the EU (European commission, 2006).
The financial unsustainability of the health system derives from the fact that the NHS has not enough income to ensure payment of their obligations (Table 1), is insolvent. Because the state is the main financer of the NHS, and has no possibility to significantly increase this budget, the most likely solution is a deep restructuring that allows significantly reduce costs and adapt to drivers that put pressure on the NHS, among which highlights the demographic pressure. In this case showing not only the high health care costs of an aging population but also reducing the amounts associated with the payment of taxes (Ferreira, 2014)

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Net Income	-19	-455,9	741,9	136,3	208,2	53	-96,5	375,4	-679,1	-361,5

Table 1 – Portuguese NHS Net Income per year (Millions of Euros) (Ferreira, 2014)

2. Problem definition and case study

To implement the BSC a pattern has been found: the process involved two phases. At first, a development of a higher level of the BSC, which was subsequently passed cascade in sector BSC. Kaplan and Norton (1996) suggest that the development of BSC at the highest level of the organization is the most difficult to reach and always suffer some limitations.
While implementation should be made initially at the sectorial level, we need a global vision for where this sectorial implementation should converge. This thesis aims to give a perspective of how the BSC to the NHS level should be at the end of this convergence.
Thus, the application and construction of the BSC for the national health system will help identify mechanisms that can create value and assess the effectiveness of the sector and the efficiency of its resources. The current situation of the NHS favors the application of performance evaluation method because, over the years, became mandatory increase the health sector's efficiency to maintain the quality and comprehensiveness of the services provided.

3. Metodology

Conceived and developed by Robert Kaplan, a professor at Harvard University and David Norton, the Boston area consultant, the Balanced Scorecard (BSC) had initially intended to be a performance measurement system based on financial and non-financial indicators. Kaplan and Norton detected the mismatch between the emerging challenges that organizations faced and traditional management control systems, which only contemplate measures of financial nature. Limited to be a window into the past, leading managers misleading conclusions medium served short-term goals and pledged the organization's

ability to create sustainable value in the future. This gap was especially noticeable in organizations with intensive use of intellectual capital in which knowledge is a critical factor in business success (Kaplan & Norton, 1996). In their view, the central purpose of the BSC was through the Mission and Vision, to communicate the strategy of the company to employees and be an aid to the implementation of the same.
The core of the BSC is based on two fundamental concepts. One is the clear and objective measurement of the subject matter through activity indicators and outcome indicators, divided into four perspectives - financial, customer, internal processes and learning and growth - generated from the vision and strategy of the organization, to reflect the intrinsic value of these (Pinto, 2007). The second is the balance, between the use of financial and non-financial indicators, between the internal and external perspective, long and short term objectives, and between activity indicators and outcome indicators, which must establish among themselves relationships cause effect.
So the BSC emerges as a complex, yet flexible measuring system, since it is easily adjustable to the specific needs of each organization that balances financial aspects with intangible, making its connection with the vision, values, mission and strategy (Figure 1), enabling the management to invest more in decision-making than the extensively analyze information. Allow to change the paradigm given by financial results, which are a result of successful implementation of strategic initiatives, rather than its driving forces.

3.1. The BSC as a model adapted to public management

Initially only designed as an advanced performance measurement system in the private sector, the BSC experienced a gradual migration from 1996, when it was still in its infancy, for government sectors and non-profit (Kaplan and Norton, 2001 (b)). This migration began to be made by a group of countries - United Kingdom, Sweden, USA, and Australia - which were already implementing performance measurement and management systems in the respective utilities for more than ten years (Pinto, 2007). They were so well aware of the difficulty in measuring the performance and aligned daily tasks with strategic goals, which would achieve the vision and create public value.
In the health sector, the first item on the implementation of BSC belongs to Griffith (1994), in order to exercise a more effective control of costs and an increase in quality in service delivery in the health sector, has experienced major development (Cross, 2005).
The economic slowdown period in several developed social states, in conjunction with a population increasingly informed and demanding with regard to the allocation of the resources available to the state, creates the need for development of metrics to measure the performance of public services. To Forgione (1997) the main reason for the implementation of measurement models and performance evaluation in health institutions is related to the ability to provide other relevant information to clients / patients, taxpayers and society.

3.1.1. The perspectives of the BSC in the health sector

Mission - There is a widespread consensus that the BSC is a good model for public sector organizations, however several critical are pointed out Gambles (1999) criticizes the use of the BSC in form originate to non-profit organizations. In this line, Niven (2003) suggests that the applicability of the model is possible, if taken into account the specificities of public organizations, which requires the repositioning of the BSC perspectives depending on their mission. For Kaplan and Norton (2000) given the non-profit nature of these organizations, the mission should be positioned on top of the BSC, as it is a sufficiently broad goal that reflects your long-term goals.
Prospective Clients and Stakeholders - Kaplan and Norton (1996) consider that the success of government organizations is the satisfaction of users/clients, that is the added value to society. In fact, although these are the financiers and "shareholders" of these organizations do not expect financial returns from them. The prospective clients or stakeholders, given its scope in this sector as not only those who receive health care is received, it becomes the focus of other perspectives and success of the organization measured by the degree of effectiveness and efficiency that meet the needs of stakeholders rather than by financial performance (C. Ribeiro, 2005).
Perspective Finance and Budget - The financial perspective loses some of importance in the original BSC, however remains central, since the stakeholders have a vested interest in maintaining a stable

financial situation of the organization and expect that the resources they make available are allocated as efficiently as possible (C. Ribeiro, 2007). For Pinto (2007), the BSC adapted to public services, this perspective is positioned later, or side by side with the prospective customers and stakeholders, working as a resource and simultaneously as a constraint associated with the limits and existing budget rules the health sector.

Internal processes - From the perspective of internal processes, objectives and indicators are focused on the processes needed for the organization to achieve operational excellence in order to create value expected by the customer in terms of both productivity and efficiency.

It is the recurrent that the failure of many companies do not derive from a wrong strategy, but of flaws in the methods and critical internal processes surrounding the strategy (Pinto, 2005).

Learning and growth - The perspective of learning and growth focuses on the skills, change and internal development capabilities, in order to align these with the strategic objectives of the organization.

This perspective , at the base of BSC includes intangibles such as human capital , information capital and organizational capital , Establishing critical cause-effect with other perspectives, influencing the ultimate success in top perspective - financial to the private sector , customers in the public sector (Pinto , 2007) .

Given the importance of knowledge and research for the success of organizations today, the intangibles values this perspective deals with are strong drivers of actions and results.

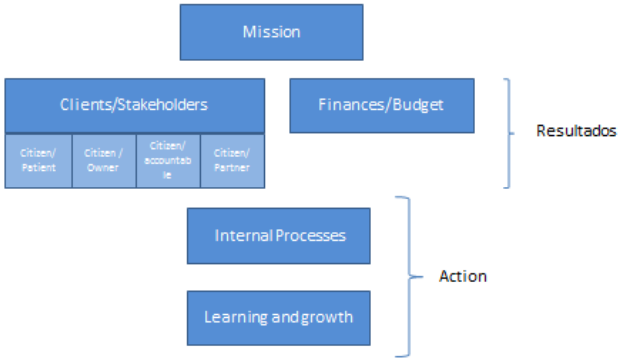

Figure 2 Perspectives adapted to the Public Sector (Adaptado Pinto, 2007)

3.1.2. Advantages of using the balanced Scorecard in the Health Sector

There are several advantages found in the literature on the BSC in the health sector, Inamdar and Kaplan (2002) underline the improved resource allocation taking into account the strategy since before the organizations had separated processes for strategic planning, budgeting and allocation of resources, but warn of the inertia within the organization for this change, due to culture deeply rooted procedures. In a sector where knowledge is the greatest asset of the organization, the BSC enables a continuous process of learning and improvement. Many executives said the BSC educated employees, causing several moments of astonishment, with the explanation of the difference between the results and expected (Inamdar and Kaplan, 2002). This relationship between management and employees may also be substantially improved since, with the BSC, employees can know exactly why their ratings, not guessing subjective reasons for them (Oteo Perez and Silva, 2002).

3.1.3. Constraints in the implementation of the BSC in the Health Sector

One of the main obstacles in implementing the BSC is the variety of influences that the results are subject in the health sector, and even when there is a set of indicators for these is not always easy or clear how the measure (Pebble A., 2009). In the public sector employees never thought in terms of results, we have always been formatted for running processes, thus increasing the difficulty in defining measures and objectives. This change of mindset required for effective implementation of the BSC, it takes many years to have practical results (Kaplan and Norton, 1996).

Political instability, with exchanges of government and its policies, also poses a threat to the implementation of the BSC, as the strategy is its heart. If the policy decides to change the strategy in the

sector the BSC being implemented stops to make any sense. However, the focus on results and evaluation indicators are part of a policy that has been advocated by recent governments in Portugal.

4. A proposal to implement the BSC in the Portuguese Health System

4.1. Mission, Values and Vision

Mission - The NHS does not have a stated mission. Nevertheless it could be found in paragraph a) of paragraph 3 of art. º64 of the Portuguese Constitution, a phrase that sums up the need for the NHS existence, "ensuring access for all citizens, regardless of their economic situation , to preventive, curative and rehabilitation health care".

Values – Fundamental Values: Universality so no one can be excluded from the system; Quality health care services; Equity, identical conditions of access accordingly with necessity; Solidarity, pays more who can afford more, basically by taxes.

Vision - There is no stated vision for the NHS, we choose as a vision for the NHS, "the pursuit of individual and collective health protection in Portugal." We believe that this phrase translates a clear and ambitious image for the medium / long-term NHS.

4.2. Strategy

The Portuguese Government selected four main vectors that rule the strategy for NHS:

Health in Citizenship - in order to encourage the citizen to be a more proactive actor in the persecution of his own health potential and also the rest of society.

Access and equity - in order to try to facilitate the possibility of the people to get health care by being closer to the health provider, and guarantee that the social-economic status is not a barrier to acquire those services.

Quality in Health - in order to the health care be always improved and the customer/citizen be better treated. There are also health gains for the population in the process.

Health Policies - in order to promote better life styles and living conditions for the population through government policies.

4.3. Strategic objectives definition:

4.3.1. Mission

Ensuring equity in health care in social-economic and geographical terms - This objective seeks to mitigate the ability of an individual to achieve their health potential.

Ensure economic and financial sustainability of the NHS - To keep the fundamental principles underlying its creation a joint basic funding mechanism, the NHS has more with fewer resources.

4.3.2. Customer / Stakeholders

Increasing Gains in Health – these gains are seen as positive results of a set of health indicators. Expressing the improvement, for example gains in life years, reduction in episodes of disease or shortening of duration, increased physical and psychosocial function.

To increase the level of satisfaction with the NHS - Customer satisfaction in relation to the operation of NHS said the quality of it , as a user / payer is essential that society has a favorable opinion of the health care to which they are entitled and to which they are subjected .

4.3.3. Finance / Budget

To reduce operating costs the NHS - Without neglecting the quality of the services provided by the NHS, it is necessary to try to reduce health care costs in Portugal.

4.3.4. Internal processes perspective

Increase the quality of health care - The user is entitled to receive the care he needs, when he needs it and without errors.

Facilitate citizens' access to health care - Adequate access is one of the determinants of health enhancer reducing inequalities. To an adequate supply, health care should be organized proportionally enough to the needs of citizens.
Implement a health policy focused on citizen-oriented and more and better health. - Better informed citizens, both in terms of their health condition and the services that providers can access, you can make better decisions that benefit themselves and the system as a whole.
Optimize resource management - The human, financial and physical resources should be allocated where they are most needed and produce the greatest added value possible.

4.3.5. Learning and growth perspective

Training of professionals for a culture of sustainability – To create professionals awareness for the Cost-Benefit of their decisions. Especially doctors' decisions about medicines and complementary diagnostic procedures are one of the biggest determinants of health spending;
Deeper cooperation in the field of health with the Community of Portuguese Speaking Countries - Facilitate the transfer of knowledge and the creation of a health cooperation agenda in technical and scientific fields;
Promoting conditions that enable and maximize clinical research in Portugal - Research and development is a strategic priority of all developed countries, including Portugal, creating value added for the future. To develop the use of information and communication technologies in the health field - The use of information and communication technologies in health is growing both from the point of view of citizens as from the point of view of the institutions responsible for promoting health and disease prevention . The presence of a larger health information flow empowers the citizens to make better decisions health related.

4.4. Strategic map

Kaplan and Norton (2004) consider the strategic map a concept as important as the BSC itself, which allows the connection between the formulation and execution of the strategy while maintaining uniformity and consistency, facilitating the definition and management of the objectives and indicators. The cause-effect relationships break down the goals of higher order prospects, the mission in success factors, which are in fact the goals of the remaining prospects that support it, creating a vertical dependency.
The following map is a suggestion for a Strategy Map for the NHS:
Ensuring structures and mechanisms of accreditation for health institutions - Portugal began in 2009 a program Qredita – an institutions' accreditation program that aims to public recognition of the quality achieved in providing health care organizations. There are already data of the results so far provided by DGS (2014) and mirrored in the following indicators chosen for this purpose:

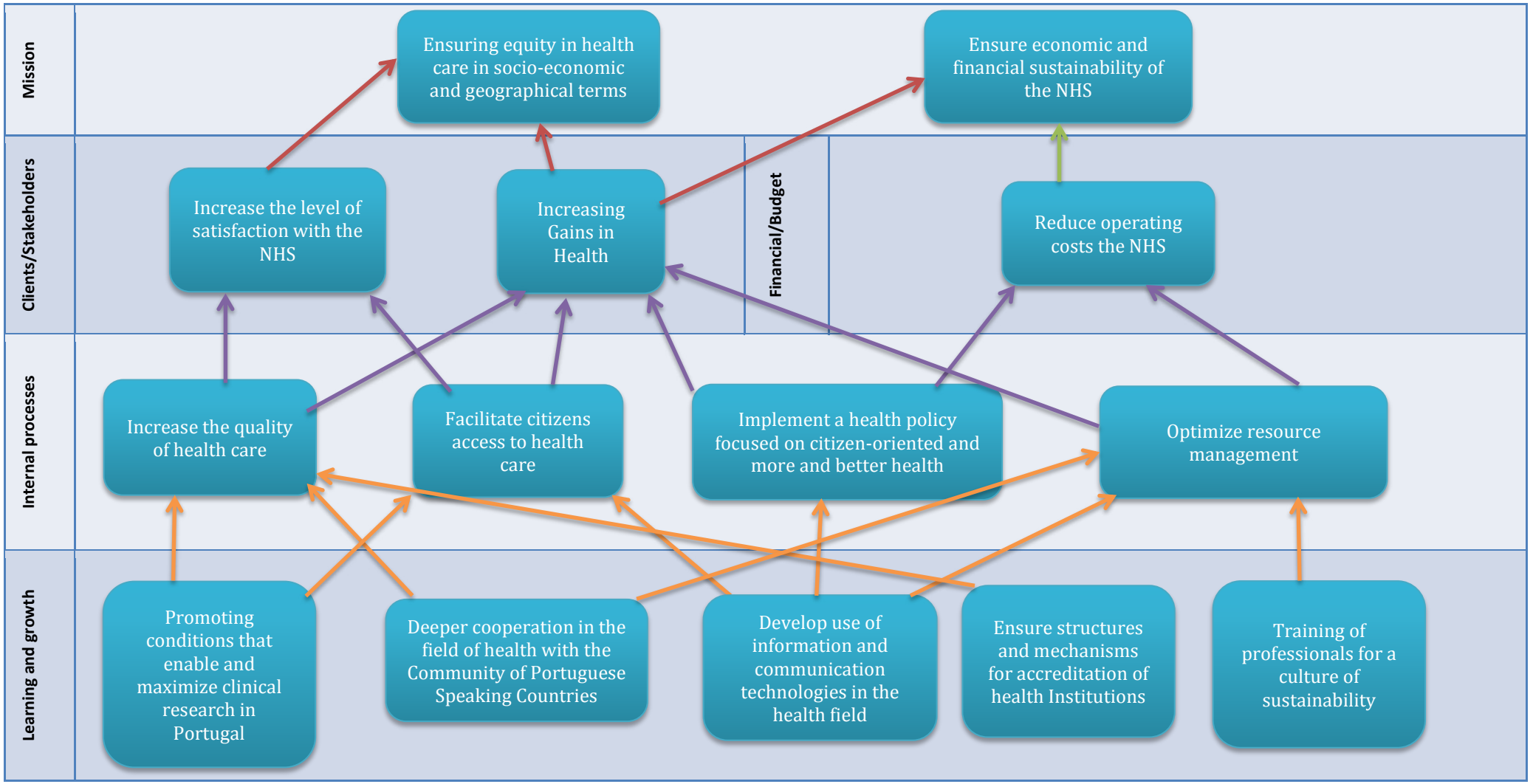

Figure 2: Strategy Map for the NHS

4.5. Indicators, Goals and Initiatives, some examples.

Ensure structures and mechanisms for accreditation of health Institutions. Portugal began in 2009 a program @Qredita institutions accreditation program that aims at public recognition of the quality achieved in providing health care organizations. There are already data of the results so far provided by DGS (2014) and mirrored in the following indicators chosen for this purpose (L&G Perspective):

Indicator	Metrics	2014	Goal 2016	Goal 2018
Number of Health Institutions accredited by @Qredita	Number	17	34	60
Number of Health Institutions in the process of accreditation by @Qredita	Number	38	50	70
Number of Health Institutionsin accreditation by other programs	Number	14	18	24

As initiatives we suggest: Accreditation of institutions and health care providers, that are not integrated into the NHS; Offer incentives to accredited institutions such as human, physical or financial resources.

To implement a health policy focused on citizen and oriented to more and better health. - The choices of the user both in the choice of health services, as in lifestyle choices influence their health condition, the community and the very functioning of the NHS. The indicators chosen for this purpose are (Internal Processes Perspective):

Indicator	Metrics	2006	2008	2009	2010	2012	Goal 2016	Goal 2018
Rate tobacco daily consumer population	%	24	N/A	23	N/A	23	20	17
Rate alcohol consumer population	%	N/A	11.19	10.9	10.84	N/A	10,24	10
Rate obese population	%	N/A	N/A	N/A	24	N/A	22	20
Number of users who use e-health	Number	N/A	N/A		N/A		N/A	N/A

As initiatives we suggest: Effectively deliver the right message to the right age group; Try to create a profile for Portuguese people making use of new technologies where citizens share their own physical activity; To promote the use of e-health by the users.

To reduce operating costs the NHS - In order to infer the evolution of the NHS operating costs following indicators were selected (Perspective Budget / Financial):

Indicator	Metrics	2010	2011	2012	Meta 2016	Meta 2018
Government expenditure on health: budget execution as % of GDP	%	5,4	5,2	6,2	5,5	5
Current expenditure on health care per capita in Portugal	Euros	1666,8	1582,1	1.484,30	1.300,00	1.150,00

As initiatives we suggest: Finding the inefficiencies in the NHS, as unnecessary overtime or replace it with ordinary work; Using the purchasing power of the state to try to reduce prices, in other words the profit margin of the companies, system inputs such as medicines; Reviewing the hospital architecture, trying to not sacrifice access to health care for citizens.

- To optimize the management of resources – For this to be possible, you must know where the costs are being allocated. The largest expenditure of the NHS is human resources and the costs with medicines, so the chosen indicators are (Perspective Internal Processes):

Indicator	Metrics	Data	Northern Region	Central Region	LVT Region	Alentejo	Algarve
Number of doctors	\100000 hab.	2000	281,4	311,8	410,4	153,8	228,7
		2009	351,2	386,8	447,6	215,9	304,4
		Goal 2016	441,5	460,3	471,3	375,6	425
Number of Nurses	\100000 hab.	2000	332,4	411,4	366,4	352,6	312,2
		2009	545,8	619,1	537,9	515,2	472,1
		Goal 2016	815,7	836,4	785,8	749,9	727
Generic drugs in total drug market (for which there are generics)	%	2005	14,8	14,4	15,4	15,4	14
		2009	29,2	28,1	28,9	30,4	27,4
		Goal 2016	96	93,8	92,2	98,8	94

As initiatives we suggest: Finding the inefficiencies in the NHS, as unnecessary overtime or replace it with ordinary work; Having a better control of costs in medicines, to know where when and why they are being consumed; Reviewing the hospital architecture.

To Get Gains in Health - In order to express the positive results in terms of health gains is necessary to introduce the concept of Years of Potential Life Lost (PYLL). The analysis of AVPP from preventable causes, for preventive or curative care, identifies areas priority and greatest potential gains in health intervention. In other words, they are indicators of the effectiveness of the NHS. Avoidable hospital admissions also reflect the performance of the NHS, they reflect the worsening of a condition that could have been prevented from occurring with primary care or good access and monitoring of outpatient care (Perspective Customers / Stakeholders).

Indicator	Metrics	Data	Northern Region	Central Region	LVT Region	Alentejo Region	Algarve Region
Mortality from traffic accidents with motor vehicles	\100000 hab.	2000	5,1	11	15	25,6	27,2
		2009	5,4	9,9	7,7	13	12,2
		Goal 2016	3,5	4,9	3,8	5,1	4,3
AVPP HIV / AIDS	\100000 hab.	2000	222,2	67,8	517	105,5	275,1
		2009	92,8	43,3	215,4	42,3	150,7
		Goal 2016	36,8	27,1	61,8	26,2	64
		Retained earnings	25,2	1,5	94,3	0	120,5
AVPP by chronic liver disease	/100000 hab.	2000	183,8	199,3	136,6	131	78,2
		2009	150,1	135	97,7	119,’	181,1
		Goal 2016	103,5	86	73,7	80,3	215,6
		Retained earnings	101,8	37,9	0	21,8	451,2

As initiatives we suggest: Fixing goals and objectives by region according to their idiosyncrasies, including the instruments of planning and the expectation of obtaining health gains; Betting on the accident prevention awareness campaigns and sexually transmitted diseases; Improving primary care and outpatient services.

5. Conclusions

The public nature of the NHS requires adjustments to the BSC model first proposed by Kaplan and Norton. The more structural concerns in the fact that the ultimate goal of the NHS is not profit, as presupposes the original model, but rather provide universally health services and ensure greater equity, this is the

mission of the NHS and was placed on the top of the developed model. The prospective customers was changed to customers/stakeholders given that a public service is not only on the provider of service with this service is to contribute to the development of the community where it operates. It was also given to this perspective a greater preponderance, placing it alongside the financial perspective, the most important in the original model.

In the end, there was obtained a scorecard with 5 perspectives, 14 objectives and 45 indicators.

To reach this scorecard, the current framework of the NHS was investigated, which are the main challenges and limitations, so that in line with its vision, mission and values, the BSC mirror the strategy pursued by the government in a realistic way. The greatest difficulties in this iteration resided in the absence of elements that the BSC assumes that exists in a common organization, such as vision and mission, they are not declared to the NHS and values were established by the EU to the states that comprise it.

The next iteration, development indicators, was notorious the lack of existing information about performance indicators for institutions such as hospitals and health centers, many indicators do not even have information available and others are outdated. Because this is a theoretical approach, this lack of data is no obstacle in order to present a proposal, but it would be extremely painful trying to implement a performance evaluation, due the scarcity of available information, we believe this issue derives the fact that information systems are not standardized, each organization has his own, which obstructs the flow of information , essential for any performance measurement model .

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