

## Is a Virtual Library cost effective?

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### Abstract

*The Andalusian Public Health System Virtual Library (Biblioteca Virtual del Sistema Sanitario Público de Andalucía, BV-SSPA), was created in June 2006. In this paper an evaluation is made to see whether the investment made by the Andalusian Government has been worthwhile. The cost-effectiveness and efficiency of the project together with the management criteria are explored.*

*Key words:* library; cost-effectiveness; economies of scales; efficiency.

### Prologue

Next June in 2012, the Andalusian Public Health System Virtual Library (Biblioteca Virtual del Sistema Sanitario Público de Andalucía, BV-SSPA) will be six years old. Over this short period, we have followed the guidelines from the Andalusian Government and have experienced a completely new way of doing things in libraries.

Our objective was to create a Virtual Library for the whole Andalusian Health System with the tools the System gave us. Andalusia is a territory with a population of more than eight million people, almost 95,000 health professionals, 41 traditional hospital libraries with their own budgets, journals and services. We had the Government's support in terms of creating a knowledge management strategy and a consolidate budget. During this time we have been immersed in central electronic resource subscriptions, creating new services such as interlibrary loans, the institutional repository, the science production studies, taking part in congresses and organizing others; we have not had time to take a breath.

And now, we are bound by economic restrictions which has obliged us to stop and reflect, to think about our past and what is more important, our future. It is time to evaluate our work and think of new opportunities and challenges to try to change this small library world. Nowadays librarians have to view libraries as companies, and become used to manage profitability, licensing agreements, visibility, economics of scale, budget restrictions. Now is the time to take advantage of this opportunity to stop, assess and evaluate the past and prepare for the future.

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### Introduction

The BV-SSPA is an Andalusian Government strategic action line determined in the key process *Guarantee the Knowledge Exchange into the Health System* which was established by the Strategy IV, Knowledge Management, in the II Quality Plan (2005-2008):

The purposes of this strategic action line were defined in this document:

- to allow health professionals to identify, find and obtain the necessary document resources for their task development;
- to help citizens to find non-biased, comprehensible and established information so they could participate in an active way in decisions which could affect their health;
- to coordinate the Andalusian Public Health libraries with the aim of sustaining an institutional network for the expansion of the Virtual Library services to every health professional;
- to establish strategic alliances with organizations for the performance of its objectives;
- to promote the Andalusian Public Health System Knowledge Management.

Andalusia is a region with more than 8 million inhabitants, with 95,000 health professionals in the following institutions, 41 hospitals (13 big hospitals with more than 500 beds; 18 medium and 10 small), 1,500 Primary Healthcare centres and other research or training centres. With that panorama the Andalusian

Government aimed to create a Centre for Information and Scientific Documentation, that is, the BV-SSPA, which coordinated all of the health sciences' documentation centres. And did we accomplish what we set out to do? Yes we did!

### Methods

The advantage we had was the institutional support which gave us our own budget and management independence. A preliminary study was absolutely necessary to know exactly the actual state of journal subscriptions and it was found that a collection of 5,267 printed journals had been subscribed by hospitals. There were 2,967 journals which had been subscribed by two or more hospitals, and were repeated into the system. That is, more than 55% of this collection had been bought repeatedly by different libraries for their own use.

The consequences of these individual subscriptions were:

- professionals who worked for these hospitals had different resources available depending on their working centres. They all worked for the Health System but the resources and services that they had at their disposal were not the same and this was really drastic for small hospitals whose funds for serial purchase were really small;
- this was even worse for professionals who worked for Primary Healthcare centres where there were no subscriptions;
- the resources which were subscribed and services such as interlibrary loans, were not, in most cases, remotely accessible. Health professionals could access and do their research only at their working centres and during their working hours.

What we firstly pursued was the rationalization of the collection to avoid duplication. First of all the evaluation of the collection was necessary, comparing it to the subscriptions that the hospitals really had and deciding if the subscription was relevant for every resource.

We started our collection in 2006 with 975 electronic journals. Our concern was to cover assistance needs, which had been previously detected through the user studies, following quality criteria. Once the BV-SSPA subscribed the electronic resources for the whole system, the centres did not renew their individual subscriptions for the same titles. This collection was progressively enlarged during these 5 years, including other subjects such as pharmacy, stem cells and genetics:

- subscribed titles in 2007: 975;
- subscribed titles in 2008: 2.404;
- subscribed titles in 2009: 2.431.

In the following years due to economic restrictions, no new subscriptions were made. However, some important services such as: document supply service, scientific production studies, institutional repository, E-learning, were developed. At this stage no centre was allowed to subscribe to any electronic resources. The licenses were signed for the whole system: hospital, research and Primary Care Health Centres. The same information and services had to be accessible to all professionals. Instant access to journals was also a requirement in order to avoid embargo and home access to resources was also provided.

### Results

At present the BV-SSPA has the biggest electronic health science resource collection in Spain. Thanks to its commitment to quality and user service in order to detect and determine needs, its electronic collection has reached 2,431 subscribed titles from the most prestigious national and international editors, covering not only assistance needs but also research and learning for healthcare, management, health economics, stem cells, pharmacy and nursing areas. 69.02% of these journals have impact factors and 91.10% of them are in the first or second quartile in Health Sciences.

Now the analysis regarding cost-effectiveness, profitability, economies of scale and efficiency is necessary.

#### Cost-effectiveness

The BV-SSPA is saving in 2010 more than 30% of the cost of individual subscriptions that hospitals would have had if the Virtual Library had not been created (*Figure 1*).

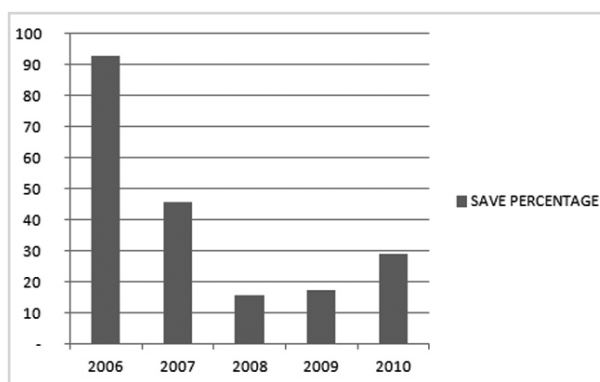
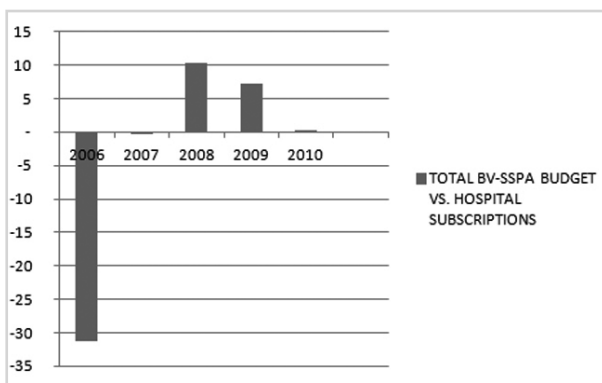


Fig. 1. The BV-SSPA saving percentage.

This calculation is reached by taking into account only the subscriptions the BV-SSPA have initiated during these years and compared with those that the hospitals would have made if the BV-SSPA did not exist. But as is indicated in a previous paragraph, our Virtual Library is managed as a business with its own budget. In addition, to subscriptions it also includes other items such as:

- salaries;
- staff education;
- rent;
- external services;
- miscellaneous costs;
- hardware, software and other investments.

What is surprising is the fact that the BV-SSPA is still cost-effective even though all these services are included, as its cost does not exceed the hospitals' subscriptions cost. These two amounts are not comparable as the hospital's data for the apportionment of salaries, premises, energy, etc. are not at our disposal.



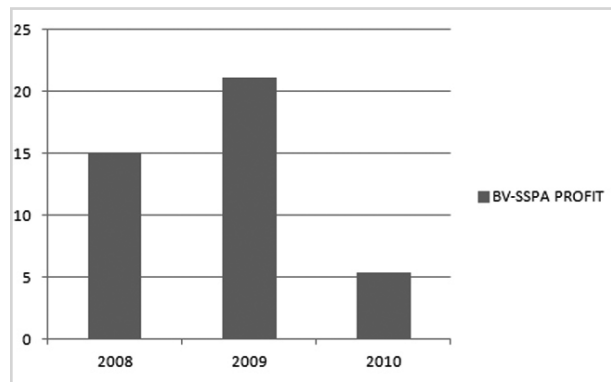
**Fig. 2.** The BV-SSPA total budget vs. Hospital subscriptions cost.

The hospital subscriptions cost would be 0.21% greater than the total BV-SSPA budget, in 2010.

### Profit

One more step is necessary to analyze this regarding the business viewpoint: its benefit. For this purpose we have an obvious difficulty: the income of the BV-SSPA comes from the Public Treasury, and it is calculated to cover just its expenses. But we have the data of the users' discharges and giving them an estimated value of five euros, we have the following results:

The BV-SSPA has had a hypothetical gross profit of 15% in 2008, 21% in 2009 and 5.4% in 2010. How many companies would be able to declare this nowadays?



**Fig. 3.** BV-SSPA hypothetical gross profit.

### Economies of scale

Central purchasing has meant for the Andalusian health professionals, the democracy of information resource access. Before BV-SSPA, only the staff from big hospitals had access to this kind of information, but now it is accessible to everyone:

- all kind of hospitals (including small ones);
- primary health care centres;
- learning centres;
- research centres.

Near 95,000 health professionals can access this Virtual Library in 2010. Comparing this to previous hospital costs, the BV-SSPA's are lower and more resources for many more users are available.

### Efficiency

There are other items which are not valuable and have a great impact on the services offered by the BV-SSPA. In addition to the central purchasing we created some services (with the same economical resources) which have increased annually:

- remote access to all the library resources independent of the user's location. The installation of this system in February 2008 was a success in terms of usage as it meant an increase of 147% of the BV-SSPA usage in 2008;
- the Document Supply Service was definitively implemented in 2009, focusing all the article orders from and for the Andalusian Public Health System, fulfilling the recommendations of the International Federation of Library Associations (IFLA);

- the Institutional Repository called HypatiaSalud which contains the whole intellectual, scientific production generated by the Andalusian Public Health Professionals as a result of their healthcare, research or managing activity;
- the creation of Impactia: an application developed by the BV-SSPA to study the Andalusian Health System Scientific Production;
- the visibility of the Andalusian Health System reached thanks to the BV-SSPA, through the numerous events in which it participates and organizes such as the 2<sup>nd</sup>. European National Digital Libraries of Health Conferences and the National Conference of Health Science Information and Documentation held in Cadiz in 2010 including its profile in social media where it can be contacted by citizens and health professionals all over the world.

### Conclusions

This has been a project which came into being thanks to the perfect machinery composed by an institutional and professional commitment (from health professionals, librarians and managers). The Institutional Guidelines and the fact that there was a specific budget destined for the Virtual Library of

Health, makes it clear that it is a strategy of the Andalusian Government which has turned it into a National Reference Centre.

Finally we can now demonstrate the productivity of this investment:

- the BV-SSPA is cost-effective;
- its usage produces a hypothetical demonstrated profit;
- its negotiating strength results in economics of scale;
- its efficiency is evident.

These figures are important for our sponsor, but the principal fact is that we have changed the rules of the market; the BV-SSPA is so strong and has such an external visibility that our negotiations with suppliers have a strong basis to initiate discussions. Like many other libraries we have suffered from budget restrictions but our work over the last years gives us enough experience to know that we can be powerful due to our number of users, the government support in terms of being the only electronic resource intermediary for the system, the services we offer and our visibility. The path we have tread will make the future easier.

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