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Information Systems on Health Surveillance in Brazil: evolution from 2000 to 2005

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Abstract

The evolution of information systems on Health Surveillance of national amplitude is presented, from 2000 to 2005, by the description of the evolution of two of the main information systems in the National Agency of Health Surveillance. This is about a single-case study, of exploratory nature, performed from documental and research analysis on the Agency website. A parallel among the normative acts issued on the period was observed, with some changes to the National System of Health Surveillance, from the implantation of the information systems studied. Important advances are described, on the information systems area in Visa, during the analyzed period.

Keywords

health surveillance; health information systems; knowledge management; Sinavisa

The relationship between the work and regulation processes on Sanitary Surveillance (Vigilância Sanitária - Visa) and the development of the information systems is still a little studied topic. The Visa area lives with a multiplicity of systems and, as discussed by Souza and Silva (2003), the difficulties for their integration are much more of "political nature and institutional culture" than of technical nature *per se.*

The creation of the National System of Sanitary Surveillance (Sistema Nacional de Vigilância Sanitária - SNVS), defined on law Nº 8080/90, as a sub-system from the Unique Health System (Sistema Único de Saúde - SUS), reflects modifications through which the area has been on the latest years. The creation, in 1999, of the National Agency of Sanitary Surveillance (Agência Nacional de Vigilância Sanitária - Anvisa), under of the Ministry of Health, has provoked a bigger rhythm of these transformations. These are, in part, a direct consequence of the globalization of economy and the development of the health products market, including new medical-assistance technologies, which present new challenges for this field.

On the other hand, the current speed of knowledge renewal and crescent need for access to a greater volume of updated information for the development of Visa activities, are of main importance for the SNVS to increase its response capacity, not constituting an obstacle for the economic activities and the development of health services. It is necessary that specific actions are more and more concentrated on the management of factors that interfere positively on the promotion and protection of the population health. An example is the growth of the number of companies acting in the Visa field, causing an increase of demands to states and cities, that will only be satisfactorily attended with the improvement of work processes, and information systems.

It is considered that Sanitary Surveillance as knowledge area working with the promotion and protection of health, mainly concerning risk management, has information as its biggest. However, the inherent complexity to the building process of information systems demands clarity on the definition of objectives to be achieved, and their stability, not frequent on the health field. The modern activities on the regulation field are much more than a set of notary actions. With this meaning, the Visa regulation is absolutely dependent of the access to different data sources, that must be updated and available whenever necessary. The volume of

produced information, as well as the knowledge created on the regulation process, and the need for fast and transparent work processes make information systems essential tools for the modern practice in Sanitary Surveillance.

On this study, the evolution of the main Anvisa information systems is described, from 2000 to 2005, by analyzing the development of the work processes and regulation mechanisms defined in normative acts from Anvisa to SNVS to verify on which extent these information systems had offered support to the fulfillment of the institutional goals on a specific area, on the perspective of the national manager.

Methodology

This work is based on the methodology of single-case study of exploratory nature. A documental analysis was performed, from secondary data, having incorporated some notes done by the main researcher himself.

The observation units are the documents referred. The main information sources were Visalegis and Anvisa website (www.anvisa.org.br). Searches were performed using the mechanisms available on the system, among which the recovery of acts by date intervals, subject, amplitude, or words contained on the text. The researches on the website were done based on keywords (e.g.: electronic petition, SNVS, etc.). Provided the indexation limitations, Google® was also used as a search tool to locate material on the Anvisa website. The study is based on information, presentations, and documents already published or accessible on the Agency website or Intranet.

Datavisa and Sinavisa, developed between 2000 and 2005, were analyzed, as well as the relationship between their evolution and the publication of resolutions supporting this evolution, and also the changes performed on the systems by demands occurred from their publication.

It was also verified some of the decisions about the incorporation of technology in the Information Technology (IT) area, adopted on this period, observing their possible impacts for the development of the information systems and their consequences for the offering of services to society.

Results

When it was created in 1999, Anvisa has inherited a set of information systems and databases from the extinct SNVS, which needed to go through a deep transformation process in order to allow the fulfillment of its mission. Eight aspects were defined, that should guide the strategy of development and implementation of information systems (BRAZIL, MINISTRY OF HEALTH, 2000). The first principle predicted the capacity and involvement of Anvisa human resources on the process. The systems should be guided to events, thus allowing the registration of all events related to products under the Agency control, as well as allowing the implementation of the several functionalities in a modular manner. Also considered relevant on this process were the documental management, processes improvement, integration to other systems, security and reliability and better technologies aspects.

The creation of the Electronic Government in 2000, which in strategic guidelines predict the use of free software and the incentive for the use of open standards and multiplatform, has obliged the Agency to consider this question on the planning of its systems. This strategic guideline has brought the need that at least the new systems developed by Anvisa, to be used by society in general, should not depend on any operational system, navigational system, or any other proprietary software to allow their use. Therefore, the independence of the platform was considered of main importance on the planning and development of the new systems.

The new corporative system would be formed by two cores: one with "typical functions of the Anvisa business" and the other with secondary elements, being "common to several organizations and companies, as well as patrimonial control and human resources management". Concerning the secondary elements, it was understood their development was possible by external contractors, from internal definitions. For the first core, the development would be "totally in charge of an internal Agency team".

It was predicted, for April 2000, that all new development considered of corporative function would be based only on new tools, using a single modeling and documentation tool. These would be developed in a single language, oriented for Internet, being JAVA defined as such language. It was also determined that Oracle® would be the corporative database.

In November 1999, the Agency was using 21 proprietary application systems, had an Intranet environment, a website and used the Foreign Trade System (Sistema de Comércio Exterior - Siscomex) for consultations and consent about products submitted to its control. There was also a demand for the development of a new website and twelve demands for development of the set considered as strategic on information systems.

Datavisa

In 2001, the Agency decided to aggregate the several databases related to the registration of products in a new and single base. It would be accessed by "Health Surveillance all over the Country" through a new system called "Products

and Services under Health Surveillance System" (Sistema de Produtos e Serviços sob a Vigilância Sanitária - Datavisa). It gathers data about licensing products and companies and controls proceduring and filing of documents on the Agency. We observed that although product data from all acting areas on the Agency had already been on Datavisa, it still presented a series of problems to be solved. In 2005, the Agency received from eight hundred to one thousand documents per day, including on this total: new processes, technical petitions and administrative documents in general. Datavisa came, therefore, to gather in a single system functions previously performed by three other systems: SIVS, SIVS-ATP and Sinpas. Until 2005 SIVS was used for the publication of a few processes that still have not migrated to Datavisa. The simultaneous use of SIVS and Datavisa forbade the adoption of a single document control routine. In 2005, the use of SIVS was definitely interrupted and restricted to consultations. Datavisa meant an important step integrating of several databases, but until the end of the period subject of this study, it still could not support the complete analysis and publication process of all Anvisa acting areas.

From 2004, a series of new resolutions changed the work manner of the Unit of Population Service (Unidade de Atendimento ao Público - Uniap), importantly decreasing the permanence period of documents on this Unit. So far, a documental analysis methodology existed, for the petitions content. When a problem was identified, "demands" were created for companies to correct/implement the documents. With the publication of RDC Nº 124, from May 13, 2004, Uniap started to executively overrule petitions that were in disagreement with checking lists. These lists elaborated by the responsible technical areas guided the companies and employees on the petition formulation, in its analysis based on the presence or absence of documents.

The follow-up of the location of any registered document was made available on the Agency website, according to several search criteria, including the number issued by several postal delivery services.

So far, for companies to prove the registration of a petition on Anvisa in bidding processes, they needed to attach copies of the petition forms. Although the proof problem was solved, the company had to unnecessarily divulge the petition forms' content to third parties, and it was not possible to fellow the petition actual status.

The Agency started to allow the emission of a Protocol Confirmation and Follow-up receipt, making possible to check the authenticity and reliability of these receipts on the website.

Electronic Petition

RDC Nº 236, from December 26, 2001, disposes about "basic guidelines for administrative procedures for the improvement of attendance and collection" on Anvisa. This had a deadline for March 25, 2002 to be effective. The use of the electronic petition was postponed several times, although it was actually started in 2003. The electronic petition process did not eliminate the sending of paper processes to the Agency. The collection control started, in most cases, electronically, but the petition content, as well as the payment receipt itself, continued to be delivered on Uniap.

The electronic petition allowed the online filling of the forms, however, later, they needed to be printed, signed if this was the case, and sent to Anvisa. The system issues the tax payment billets when applicable, already considering the size of companies and billets in cases when the petition object is exempted from charges (amount zero billets). The system endorsed a Budgeting and Collection Management sector (Gerência de Orçamento e Arrecadação - GEORA/GGGAF), as well as Uniap, a new mean of collection control and document registration control.

Sinavisa

SNVS, predicted on law 8080/90, defines the need for interaction among the three government spheres. Ordinance Nº 2.473/2003 establishes the *guidelines for the covenant programming of sanitary surveillance actions on the scope of the Unique Health System (Sistema Único de Saúde - SUS)*... defines obligations referring to information systems on the three spheres. The Federal Government has the responsibility to coordinate the *National System of Information on Sanitary Surveillance (Sistema Nacional de Informação em Vigilância Sanitária- Sinavisa)*, which comprehends all technical and managerial information produced by Anvisa areas. State and City Governments have the responsibility to "implant, manage and update the Sinavisa according to regulation to be proposed by the Advisory Committee of Sanitary Surveillance at Tripartite". It is also predicted that in case state/city systems already exist, the communication and data exchange has to be guaranteed between them.

The current Sinavisa comes from the Goiás State Sanitary Surveillance ("Vigilância Sanitária do Estado de Goiás - Visa - GO"). The decision to use the referred system as base for the country was made by the States that chose the referred system as starting point for the development of the national system. Anvisa provided hardware and software necessary

to State Sanitary Surveillances that needed it, as well as a communication link with Brasília, so that all states could use Sinavisa.

In March 2004, Sinavisa worked regularly in few states and did not have any established routine for data interchange between states and a national base. There was no single version of the operating system, as well as there were variations from the data model under use by states. Anvisa kept three experts in Goiânia to help the system development.

In September 2004 the decision was taken, together with Visa-GO, to bring the Sinavisa development to Anvisa. Among the main motivations for such decision, the need for support to all state Visas and crescent need to form a single national database was emphasized.

In November 2004, a new version of the system was distributed to all states. This version did not show any new functionalities, and only corrected some mistakes, but had as main objective to make all states work with a single version. The use of the registration module by all states from January 2005 was defined as goal, and that Sinavisa would have two annual versions, that would be released in May and November, also coinciding with evaluation meetings. Unfortunately, this was not possible and, in March 2005, the country still did not have a single consolidated companies base for consultation.

In a meeting that happened in May 2005, in Brasília, with the presence of all States and Federal District, it was unanimously decided that Sinavisa would be available for all the country from August 2005, and the system priorities were also ratified. The prioritary modules were still Registration, Inspection, Goals Adjustment Term (Termo de Ajuste de Metas - TAM) and Registration-Free Products System (Sistema de Produtos Dispensados de Registro - Prodir). It was defined that five regional events would be organized for States capacity. The Virtual Community in Sanitary Surveillance would be used for experiences exchange among States. On this meeting, three groups were formed concerning the strategy for the use of Sinavisa:

1) states that would start using the web system disregarding any previous data that could exist on the state;
2) states that would start using the web system with their data coming from the local Sinavisa and migrating to the central base at Anvisa;
3) states that opted not to use Sinavisa, due to other existing local systems. These states compromised to use a data exchange pattern in order to guarantee the national base feeding.

It was defined that a set of web services would be made available in order to allow online integration to other systems.

Approximately 280 people were capacitated on the 5 regional events, with capacity for the system's state managers.

In August 2005, the system was available for the whole country. The 12 States that had decided to start using the system without considering previous data were gradually licensed. The States that opted to migrate their bases were licensed until October 2005.

In some opportunities, the system situation was presented on the Anvisa Tripartite Advisory Committee and on the Technical Chamber of Health Surveillance on the National Council of Health State Secretaries (Câmara Técnica de Vigilância Sanitária do Conselho Nacional dos Secretários Estaduais de Saúde - Conass). The follow-up by these two collegiates allowed everyone a different evaluation from the one that was already being done before September 2004. The wish of cities to take part in the discussion process and definitions about the system was clear, since all construction logic refers, whenever possible, to its use by municipalities. Therefore, the Sinavisa Management Committee counted with five state representatives, indicated by the Conass Technical Chamber of Health Surveillance and five municipality representatives, indicated by the National Council of Municipal Health Secretaries (Conselho Nacional dos Secretários Municipais de Saúde - Conasems).

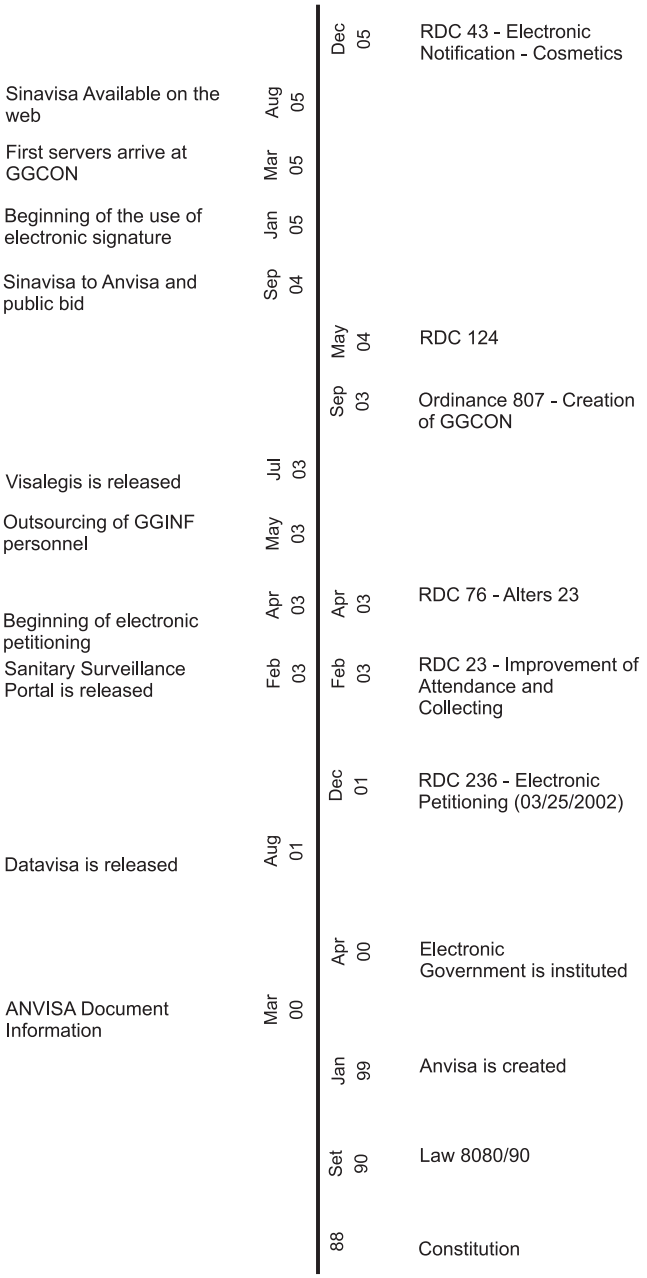
The minimum data for Visa identification of the experts, collected on the 2004 Census, were made available at Sinavisa, aiming to make the registration of users easy.

Data related to Prodir that were being fed by states were made available for consultation at Sinavisa, as well as from the Anvisa website, to the entire society.

In January 30, 2006, the Anvisa database counted with data of approximately 126,000 registered companies. Operated from a central base, the system currently allows any Health Surveillance in the country to have access to registration data of any of the registered companies.

Figure 1 shows, on its left side, significant facts for the development of information systems on the studied period; on the right side, the main normative acts that somehow interfered on their development, or that were required from the needs for development of the systems.

Figure 1 - Representation of the significant facts and normative acts, on the evolution of the Information Systems on Sanitary Surveillance on the period studied.



Discussion

Considering Anvisa as being extremely young, dealing with a great variety of products and knowledge areas and all inheritance it received, the problems found on information systems are expected. Information systems are not ready. They are dynamic systems in expected and permanent evolution. However, in order that this evolution is possible, it is necessary to have clearance of the goals to be reached, and their expected products. The Agency has the risk management as a guide of its action. Therefore, the systems must be built in order to collaborate with the execution of these actions. There are no doubts that the trial to consolidate facts originating from several systems, built from distinct logics, is an important complicating factor on the construction of a single database such as has been done on Datavisa.

Anyway, it is appropriate to ask if it was actually known by everyone and if the information system intended to be followed was accepted. The process of the creation of the Agency, very well discussed by Piovesan (2002) and the observation of the evolution of systems on this period indicates the answer is no.

The option not to adopt one or several commercial systems in order to fulfill needs of administrative information common to several organizations and the insistence to develop the almost totality of the systems, among other factors, caused the administrative and financial area reach this point without a corporative management system.

As in all Visa areas, the problems related to the information and IT area personnel at Anvisa are not small. In 2003, all personnel working on General Management of Information (Gerência Geral de Informação - GGINF), hired on their large majority by international organs, were outsourced. Until 2005, the non-existence of Agency personnel on the area created great difficulties for the conduction of the building systems process. In 2005, with the Anvisa public human resources selection with 580 positions, the General Management of Knowledge and Documentation (Gerência Geral de Gestão de Conhecimento e Documentação - GGCON) received seven employees. After the first six months of knowing and adapting to the Agency, these employees started to take part in a group focusing on business analysis. Considering the size, the diversity of its areas and the systems' processing volumes, it is clear that seven people were absolutely insufficient to attend Anvisa as a whole, but this meant the beginning of a possibility to build a memory for the information systems' development process development .

In order that the work in Visa can contribute in an effective manner on the fulfillment of its mission, the access to quality information necessarily on time is fundamental. Promoting the access to technical-scientific knowledge databases is a hard and costly task. In February 2003, as part of the agreement with the Latin American and Caribbean Center of Information in Health Sciences (Centro Latino-Americano e do Caribe de Informações em Ciências da Saúde - Bireme), the Portal of Scientific Information on Health Surveillance is released, under coordination by the Management of

Technical-Scientific Documentation/GGCON, which allowed to any and each Anvisa employee to access an important set of scientific database and also count on other services, such as the Cooperative Service for Access to Documents of the Health Virtual Library (Serviço Cooperativo de Acesso a Documentos da Biblioteca Virtual em Saúde - SCAD), with no direct costs for the employees.

The creation of Legislation on Health Surveillance database was also a fundamental element contributing for the construction of an agile and productive work process. The Visalegis, also built as part of the agreement with Bireme, counted in October 2006 with more than 22,000 normative acts (BRAZIL, NATIONAL AGENCY OF SANITARY SURVEILLANCE, 2006). The creation of the GGCON, in September 2003, came to face the logic of the need to collaborate on sharing and constructing knowledge in Visa, as structural element of SNVS.

The Visa area also counts, if compared to other health areas, with a small volume of scientific production. Besides, a good part of the knowledge in the area is produced by means of opinions and documents that, most of the times, are filed inside the processes. The socialization of this knowledge is fundamental for the improvement of works in the area. The remote possibility of consultation to opinions dealing with similar topics and the consultation to normative acts that supported such opinions can greatly reduce the necessary time for processes analysis.

Building systems that only support notary offices functions does not allow to improve the Health Surveillance operation. Discussing the evolution of the information systems on Visa must mandatorily consider these different needs.

As we were able to witness, a set of resolutions aiming to provide legal support to changes that were being proposed on the work processes of the Agency and its systems was published. Great effort was done aiming to synchronize the publication of Resolutions with changes on the systems and *vice-versa*, but these changes not always occurred as expected, for example, in the case of the operating start of electronic collection, postponed several times.

The Datavisa development represented an important advance on the data integration work. Unfortunately, as verified on the period of analysis for this study, it is still far from reaching the objectives for which it was initially thought according to the document related to the Information System on Health Surveillance (BRAZIL, HEALTH MINISTRY, 2000).

The lack of integration between Electronic Petitioning systems and Datavisa had not been solved yet. Although companies inserted all data from Petitioning Forms in the Electronic Petitioning System (Sistema de Peticionamento Eletrônico - SPE) and it kept these data, they were not loaded to Datavisa, obliging the technicians responsible for the petition analyses to reinsert part of the data. During 2005, an attempt to use data inserted in the SPE was tried on Datavisa, but this process had not been concluded until now.

Another unsolved point is the issuing of Certifications and Declarations related to products. These services, at least theoretically, could have been offered directly by the website, thus relieving the work load of the general managers that today, with all technology available, could have been done by the user himself, or with very little intervention from the health authority. So why this has not happened yet? Two elements could be considered as most important. The first refers to quality and accuracy of data existent on Datavisa. Many attempts have been made to "clean" the base, and none of them was a complete success. The current situation is much better, but still not solved. The second is related to the non-utilization of digital signatures adherent to ICP-Brazil standards on Datavisa, until that period of time.

In the end of 2005, a SPE functionality that already brought the user petition forms was implanted, filled with data from the corporative databank when a petition was entered. The need for the implantation of such functionality seems absolutely obvious. Its availability generates a huge economy of time and efforts to whom uses the petitioning system. The biggest advantage of this process is certainly to allow the user to verify all data in the corporative databank. The chance to be able to perform such verification generates the possibility to suggest eventual necessary corrections. A tool to compare data inserted in the electronic petitioning system and its data from the bank was being built, in order to facilitate the comparison of both contents by the technician in charge of the analysis. Thus, it would be possible to perform to corrections the base, without having to reinsert data.

In mid-2004 a new attempt to begin using legally recognized digital certificates was started. The implantation of this technology only started on the first quarter of 2005. On this first phase, the certifications were distributed in tokens to directors, adjunct directors, general managers and advisors. The use of these certifications for the signature of emails was the first step to allow the appropriation of this technology by the functional staff. In parallel, SPE started to be modified in order to allow, for some petition subjects, the signature by the company through digital certifications once they have been accepted. It was also started an action directed to the "regulated area" to discuss the possibilities of using such technology. The first attempts on this meaning

were performed in agreement with the General Management of Cosmetics and the Brazilian Association of Industry and Personal Hygiene, Perfumery and Cosmetics, in order to allow the full electronic generation of Grade 1 Cosmetic Notifications. Other initiatives were also developed in agreement with the General Management of Medications and Brazilian Federation of Pharmaceutical Industry, aiming to allow the use of such technology by some of the notifications of the medications field. Initially were selected the notification of alteration of package inserts and the notification of alteration of labels. The modifications on this work process, related to Cosmetics, are already in effect and were regulated by RDC Nº 335, from December 13, 2006.

It was evident that, concerning the SNVS integration, important steps have been taken, but we are still on the basic and initial process steps. The right decision to centralize the Sinavisa opinion at Anvisa made a lot easier to integrate the system concerning the data sharing. The simple fact that state' Visas are able to share information of the companies registered and submitted to Visas control already represents a huge advance.

It is also clear the need to decrease the multiplicity and redundancy of "National Registers", giving value to the registrations already existing. In the case of Health Surveillance, we can name the example of the National Registry of Health Establishments (Cadastro Nacional dos Estabelecimentos de Saúde - CNES). Why do we frequently see initiatives for the creation of new registrations when we already have several ones? It is necessary that the country makes all efforts as possible to give value to existent registrations, insisting on the constant evolution of their quality, concerning the data accuracy and the constant improvement of their structures. It is also fundamentally important that standards for exchanging data among the existent information systems are adopted, aiming at a necessary interoperability warranty.

The specific Sinavisa situation, before the decision to centralize its database, and the system availability from the web to the whole country, brings an important discussion point concerning strategies for the implantation of national information systems. Implanting information systems in countries as large as Brazil is always a huge challenge. The difficulties of the IT staff locally responsible for guaranteeing the continuous functioning of the system and capacitating all personnel are not little and must always be considered. These questions are, almost always, bigger than the problems for the acquisition of desktop computers, which are each time easier and cheaper to acquire prices and bigger facilities for their acquisition. We cannot underestimate, however, the difficulties in maintaing versions in different bases, even considering only the 26 states and the Federal District. The outbreak of the Internet and the bigger availability at accessible costs to resources of broad bandwidth connectivity, come to definitely and irreversibly modify the possibilities of system implantation models in our country and worldwide. The advantages provided by broad bandwidth connection, such as the enforcement of system management only on physical installments where it is hosted, and the exemption of updating versions on the systems in several servers around the country, must not be minimised. It is important to emphasize the distance training possibilities, using the e-learning resources, at costs considerably lower when compared to the costs of presential courses. Another relevant aspect e-learning tools use is the scale gain, considering they multiply the chance to capacitate different persons, in several areas of the country, simultaneously.

The constant evolution of the Internet, and the technological resources that appeared on this process, have been transforming the possibility of Visa system implantations.

It is also necessary to differ "national information systems" from "federal information systems", or even nationally used systems. Discussions for the implementation of Sinavisa, as a national system, range from questioning the system's functioning strategies themselves, as well as the need for systems integration and interoperability, thus guaranteeing the construction of a single database and the use of a single system all over the country. If this does not occur, we are going to create federal information systems, not national. We cannot think about national information systems if just a small portion of the states participate. The presence of all states, and being accessible to them is mandatory so that they can be considered. The reformulation of important post-registration notification systems is a good example of this situation.

In November 2004, a discussion about the reforming and unifying the products post-registration notification systems. This was another Agency's acting area the sharing of information all over the country is absolutely fundamental, since the products such systems or notification mechanisms dealt with are used all over the country. From these discussions came the National System of Notifications for Health Surveillance (Sistema Nacional de Notificações para a Vigilância Sanitária - Notivisa), not approached in details in this study as it was still under development in December 2005.

Table summarizes the way some of the instruments available have been supported or not by the information systems and by the initiatives Knowledge Management area developed during the studied period.

Table - Indication on how fully Information Technology (IT) and Knowledge Management (KM) products meet to the needs of some Visa instruments on the period studied

Instrument	Attend.	Instrument	Attend.
Legislation	Y VL	Epidemiological Surveillance of Adverse Events	P DV/VS
Inspection	N DV/SV	Information and Education for Health	N KM
Monitoring of the Quality of Products and Services	N DV/SV	SNVS	P DV/SV

Caption: Y-Yes, P - Partially, N - No, KM - Knowledge Management, DV – Datavisa, SV – Sinavisa, VL - Visalegis

Advances provided by Datavisa and Sinavisa represented important steps to allow improving the use of Visa tools mentioned here. Visalegis development and deployment represented a significant advance on the access to legislation on Visa. The collection currently available on the system is significant and the system is able to receive the legislation from any federal institution.

SNVS has been partially attended by Sinavisa, mostly because it is still being fully developed. It is mandatory that in the case of Sinavisa, advances on the integration with the current systems occur, for example, with the São Paulo state system. It is fundamental that we dispose of the information of this important Brazilian state, that has hundreds of thousands of organizations on its territory, many of which affect the Health Surveillance performance. If not, could we consider that we have a National System of Information on Health Surveillance?

Conclusions and Recommendations

The changes described in the area of information systems on Visa, during the analyzed period, undoubtedly represent a set of significant advances for Health Surveillance.

The decision to take systems to the web environment certainly comes to meet what we have observed in several areas. However, provided the legal aspects of secrecy and confidentiality of data that must be protected, it is necessary to observe a series of measures, withim which it is important to emphasize the fundamental need to diffuse the use of certification and digital signature mechanisms, adherent to the ICP-Brazil standards.

In spite of the environment the systems operate being of fundamental importance, to facilitate its use in a country of continental dimensions such as Brazil, it is not able to solely respond for their correct use.

For Anvisa, who had its database constructed by gathing several databases, the data selection is critical for the offering of electronic services to society to evolve. Many of the principles considered to outline the development of systems from 2000 on have not been tightly followed, such as Java adoption of for the new systems. It is recommended that the Agency reviews such outline principles. The existence of a multiplicity of environments, platforms, programming languages and databanks greatly interfere with the systems management and their integration. This variety forces personnel costs to incread, since the Agency has to count on professionals specialized in several tools and environments for the same functions. The costs of software property and personnel capacity are also affected by the multiplicity of tools and environments.

It is believed that the strategy of developing staffs that have business analysis as main activity is the best path to choose. Health Surveillance as State activity does not allow and will not allow the use of business software packages as support to its basic operation, for a single reason: they simply do not exist. Therefore, it is necessary to create a big interface between the Agency personnel linked to ends-activities and the information area personnel. IT personnel outsourcing makes even more serious, issue since these persons do not have any perspective to stay in the Agency at medium to long terms.

On the other hand, it is recommended the adoption of business packages for activities that are not connected to the Agency as long main as activities, the integration with Anvisa systems is guaranteed. Developing systems to middle areas appeare to be a waste of resources when these we necessary but not available to develop systems linked to final activities under deserable the conditions desired.

The Agency, as any other institution or company, has the natural limitation of human and financial resources for systems development Therefore, it is fundamental that

priorities of development to be attended by the IT area are defined. It is recommended that this definition of priorities is based on the elaboration of a Strategic Planning of Information Systems (Planejamento Estratégico de Sistemas de Informação - PESI). Such planning would not only bring clarity of priorities to be attended to the area, but, mostly, would allow the whole Agency, from Collegiate Directorship (Diretoria Colegiada - DICOL) to assume the commitment of the planning as an institutional decision and not as a decision from the IT manager or motivated by emergencial problems. It is always recommended the prediction of the possibility to allocate some, resources for the attendance to last minute needs, but they rather not, interfere with the strategic planning of Agency systems as a whole.

It was possible to verify there is still a lot to be done concerning the development of Sinavisa according to what is predicted on the current legislation. The procedures are not yet standardized to the point of allowing the construction of an integrated system.

The integrated consultation to databases it would represent an important advance for the system. This could be done from the Anvisa website itself, in case the line used on Sinavisa keeps on being adopted.

The faster transformations our society has been submitted to only increased the challenges for the Visa area. The IT and knowledge management areas are constantly challenged to provide better tools and answers to the needs of this knowledge area under continuous evolution.

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