

GOVERNANCE SOLUTIONS: HEGOS

Nowadays, Health Governance is a prerequisite for matching increasingly tight budget constraints with the citizens demand for health.

ICT (Information and Communications Technology) can provide a crucial contribution to the governance of Healthcare Institutions: the ability to collect, connect and process information is of paramount importance to get acquainted with and understand the complex and structured healthcare landscape. The support ICT can provide is not only restricted to a mere presentation of data and results, but it also encompasses the definition of business strategies and goals, the resource and activity planning as well as monitoring and control.

The IT competence, supported by adequate tools, becomes the key to build decision support systems. Acquainted with these requirements, Santer Reply has developed **HeGoS** (Health Governance Solution), a leading-edge information system aimed at supporting all the phases and activities related to the Health Governance.

HEGOS SOLUTION FOR HEALTHCARE

Santer Reply strategy entails seven steps which define methods, tools and objectives of its offering in a clear and transparent way.



1. **Address Business Governance with a holist approach.** Business Governance requires an in-depth knowledge of all the elements making up the service demand on which the offering shall base. In this context, an integrated view of the healthcare processes is a key aspect in its widest sense, facilitating the understanding of the healthcare framework thus allowing to anticipate its trends.
2. **Integrate economic, clinical and health aspects.** The insight into business dynamics cannot disregard a seamless integration of the economic, clinical and healthcare aspects as well as the relevant relationships among them. In fact, important concepts such as quality, efficiency, effectiveness and Clinical Risk Management cannot be measured with just one dimension, being the result and the combination of several, different elements.
3. **Manage prevention, treatment and care.** Health protection means not only treating and assisting patients, but also to undertake, to prevent the outbreak of diseases and to discourage health-endangering behaviors through health education, screenings and early diagnosis campaigns.

4. **Include all phases of the Healthcare Governance.** An effective solution must include all functions and tools required to support all the existing processes, starting from the definition of guidelines and strategies up to the involvement of planning and control and including medicine and the clinical area.
5. **Leverage investments safeguarding legacy solutions and skills.** Budget requirements and the complexity of processes managed by ICT do not allow drastic approaches but require a progressive update of the solutions. Therefore it is essential to implement a strategy aimed at valuating investments already made, using at best features and capabilities of legacy systems. The design and development of an advanced Business Intelligence framework can compensate for lacks of information analysis and distribution of traditional applications and enable the integration of data resulting from different systems.
6. **Use the best Business Intelligence technologies.** The mass of information to be managed and the different ways to analyze and map it requires using advanced technologies and tools. Santer Reply has therefore adopted the SAS solutions which are the state-of-the-art for Business Intelligence and provide the best performances both in terms of run-time, processing speed and function scope.
7. **Ensure security.** Security must be put before application-related and functional issues. The design and deployment of a Business Intelligence framework introduces simpler and leaner access control and planning than uncontrolled document and data distribution through traditional ICT channels, such as the e-mail, the shared folders or the query capabilities of application systems.

In order to meet the requirements and achieve the goals described above, Santer Reply has developed the **HeGoS** solution: a modular solution with comprehensive software modules, specialized consulting and functional support services aimed at providing the customer with a state-of-the-art, available, scalable and easy-to-use solution.

HEGOS: ARCHITECTURE

The HeGoS system is made up of a set of application modules based on the SAP platform which provides advanced Business Intelligence services addressed to all business areas. Moreover, the modules supply data to the Portal which is the main tool for accessing and distributing information.

The multiple modules developed involve cross-company healthcare areas (such as Controlling); some of them are addressed to specific requirements of the Nuclei

Operativi di Controllo (Local Health Corporations) and Public Hospitals (e.g. Risk Management).

All modules cover three different knowledge areas: Guidelines and Strategies, Planning and Controlling, Clinical Governance.

GUIDELINES AND STRATEGY

This area addresses CEOs or Managing Directors who are in charge of defining the guidelines of their businesses, implementing strategies and measuring results achieved. This area is made of two cognitive modules:

OBJECTIVES AND VALUES. This module enables to define the business goals and to measure the relevant outcomes through a wide range of economic, financial, process and quality figures. These can be grouped in cockpits and represented with different graphic tools, also using the Balanced Scorecard methodology.

DOCTOR PORTAL. The Doctor Portal is a Web application that the Aziende Sanitarie Locali (Local Health Authorities) can use to distribute documentation (specific files, doctor records, miscellaneous communications, reports, statements, etc.) to external users, authorized by user name/password.

The document upload in the portal allows publishing two different types of documents; public and private documents:

- Public Documents: documents and communications that ASL addresses to all registered users or to a specific users category (doctors, employees, etc.)
- Private Documents: personal documents linked to specific users, published in a restricted area which can be accessed only by registered users (doctors records, etc.).

PLANNING AND CONTROLLING

This area addresses Finance Managers and Controlling Managers who are in charge of planning and controlling the economic situation of their businesses as well as HR Managers who have to manage Human Resources. This area is made of four cognitive modules:

CONTROLLING. This module includes a set of cost accounting capabilities which enable the indirect costs allocation according to the Activity Based Costing techniques, the costs allocations according to cost drivers, the management of the profit and loss account. This module also allows managing the business budget and activities and includes a set of capabilities for simulations and What-if analysis. Moreover, this

module entails the management of the files related to the “Debito informativo” (Profit and Loss Account and transcoding file).

HUMAN RESOURCES. This module is dedicated to the Human Resource Management. It allows managing the organization charts and enables to carry out different analysis types, such as for example chart dimensioning, geographical distribution of staff, remunerations and bonus systems aimed at defining the actual personnel costs.

PRODUCTS. The Scheda Prodotti (Product Report) is a system for collecting Business Data which cannot be retrieved from legacy IT systems. This solution can retrieve any kind of data relevant for the business, checking its quality and configure it for Data Warehousing.

NOC (Nuclei Operativi di Controllo). This module was designed to specifically meet the ASL (Local Health Authorities) requirements in terms of adequacy checks; in detail it allows analyzing databases concerning referrals and outpatient treatment services providing KPIs with regard to anomalies occurred on the bases of the relevant DGR (Delibera Giunta Regionale - Regional Council Resolution). Moreover, the system generates a data mart that can be analyzed in a multidimensional way assessing in detail each single anomalous treatment service.

CLINICAL GOVERNANCE

This area addresses health managers and medical directors who are in charge of checking the adequacy and effectiveness of clinical processes. This area is made up of five cognitive modules:

ADEQUACY, GUIDELINES AND TREATMENT PROFILES. This module allows defining the guidelines for care, prevention and treatment of patients and includes casuistics and treatment profiles. Profiles describe activities, processes, events and medications composing the diagnostic or therapeutic plan and allow assessing and defining the adequacy of the clinical pathways of patients. Starting from the definition of casuistic and related health protocols it enables to verify the deviation between the reference protocol and the treatment provided. The module also envisages a Web-based enhancement which enables to access and consult guidelines and related treatment profiles.

RISK MANAGEMENT. With the OpRisk Solution of the SAS Business Intelligence suite, the Risk Management module supports the various business functions in governing the variables relevant for controlling, reducing and transferring the operating risks. This module is targeted to support the specific tasks and activities of UGR (Unità di Gestione del Rischio) and enables to use standard error codes (e.g. E code ICD 9 CM), which are an important prerequisite to identify and classify an error in the healthcare area. Thanks to the native integration with the HeGoS clinic-health Warehouse, this module supports the Risk Manager in the analysis of clinic-health

processes of his own business, thus making information available with a drill-down function; moreover, information can be enriched with data from various sources (questionnaires, interviews, incident reporting, specific databases) which can be retrieved through customizable modules.

Through a calculation engine for the information analysis related to operating risks, the Risk Manger can assess incidences (analysis by process and/or business structure), then activate the scheduled monitoring operations considering the history of the organizational countermeasures or solutions to be taken, measuring the relevant effectiveness. The definition of the Risk Matrix envisages that the analysis concerning the Frequency and Severity distributions results in the calculation of the Aggregate Loss Distributions with the possibility of simulating Economic Loss Scenarios against diversified insurance impacts.

DOCTOR RECORD. The module “Scheda medico” (Doctor record) enables the ASL (Local Health Authority) to generate reports (in pdf format) for MMG (Medici di Medicina Generale- GPs) and PLS (Pediatri di Libera Scelta-Paediatrists). The system can generate a Pdf document for each single MMG/PLS containing an overview of static, epidemiologic and economic information. The module can also send the Doctor record via e-mail to the intended recipients. Moreover, the Doctor record is transmitted and distributed through the Doctor Portal; it can therefore have a sharing impact among MMG/PLS with reference to the relevant topics.

EPIDEMIOLOGIC COMPLEXITY – PARAMETRIC BDA (Baseline Data Analysis).

The HeGoS-BDA module is the industry solution specifically designed by Santer for the business management of the BDA (Ranking of welfare recipients by pathology). In addition to the management according to regional and statutory regulations, this tool can be customized for customer-specific analysis (e.g. Osservatori di Farmacovigilanza – Pharmaceutical Supervision Authority).

The module leverages all the capabilities available within the HeGoS system (ETL management, data normalization and certification, data entry and error management) thus providing end users with the epidemiologic analysis results.

WELFARE RECIPIENTS RECORDS. The solution enables to select a “panel” of Welfare Recipients, i.e. a group of welfare recipients with common parameters. The data resulting from these selections are displayed in a series of spreadsheets organized by doctor and/or welfare recipient. The creation of Excel sheets is managed by the user interface and allows organizing activities by homogenous groups (doctors, districts, ASL).

THE REPLY VALUE

In addition to the software specifically designed to meet specific requirements, Santer Reply provides all the services targeted to realize and consequently achieve the business goals.

Santer Reply specialized staff supports customers along all implementation steps of the project, providing not only functional but also management consultancy. The HeGoS team leverages the typical tool of the Reply Group to share with Customers new issues and topics, identifying high-performing solutions best suited for each and all requirements.



Santer Reply is the Reply Group company specialized in the development, implementation and management of vertical application and services for Local Health Authorities, Hospitals, Municipalities and Regions. Santer Reply aims at helping the healthcare system and public administration during the change process, thanks to its ability to plan, develop and manage web-based solutions having high innovative content.

Santer Reply offers: integration capability and project management; knowledge and skills specialized in the healthcare market, as well as in the administrative, hospital, territorial and managerial sector; delivery quality; knowledge and competence specialized in Public administration, services to citizens and service management for public consortiums; strong application focus, consistent with the infrastructures and the services offered by the Social Security Information System.

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