THE INTEGRATION OF ACG WITH THE BUSINESS INTELLIGENCE SYSTEM OF A LOCAL HEALTH UNIT IN VENETO REGION, ITALY

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Background

Usable information are increasingly needed in order to improve the cost-effectiveness and sustainability of public health systems, especially during times of austerity as experienced by the Italian health care system nowadays. The Italian Healthcare system is managed by regional governments and offers universal coverage, is tax funded and patients are charged a copayment for outpatient services.

In 2012 the Veneto Region, first in Italy, started a pilot project for implementing ACG system using available claims data in two Local Health Units (LHU N. 16 – Padova and LHU N. 20 – Verona).

While the first year of the project was spent to gather as many diagnoses as possible from the different information sources, during the second year many efforts were made to analyze data, create customized reports, usable and understandable by the decision makers at every level. In addition, during the second year (2013) four more LHUs joined the project, reaching almost 2 million inhabitants, 40% of the Veneto Region population. The aim of this study is to describe how it is possible to integrate ACG system with other local Business Intelligence systems in order to transform row data into meaningful and useful information to enable a more effective decision-making process.

Methods

How can we turn the data into actionable information in an easy and readable way by the directors (decision-makers) at every level? We tried to answer this question in different ways and here we illustrate the solution implemented in the LHU 20, using a single Business Intelligence application, Qlikview, where relevant data from ACG were consolidated.

All the different outputs of ACG have been loaded into a single Qlikview file and have been transformed in order to enable a more intuitive data visualization. The result is a single integrated framework for viewing, querying and analyzing the data by the Medical Director and the Primary Care Coordinator.
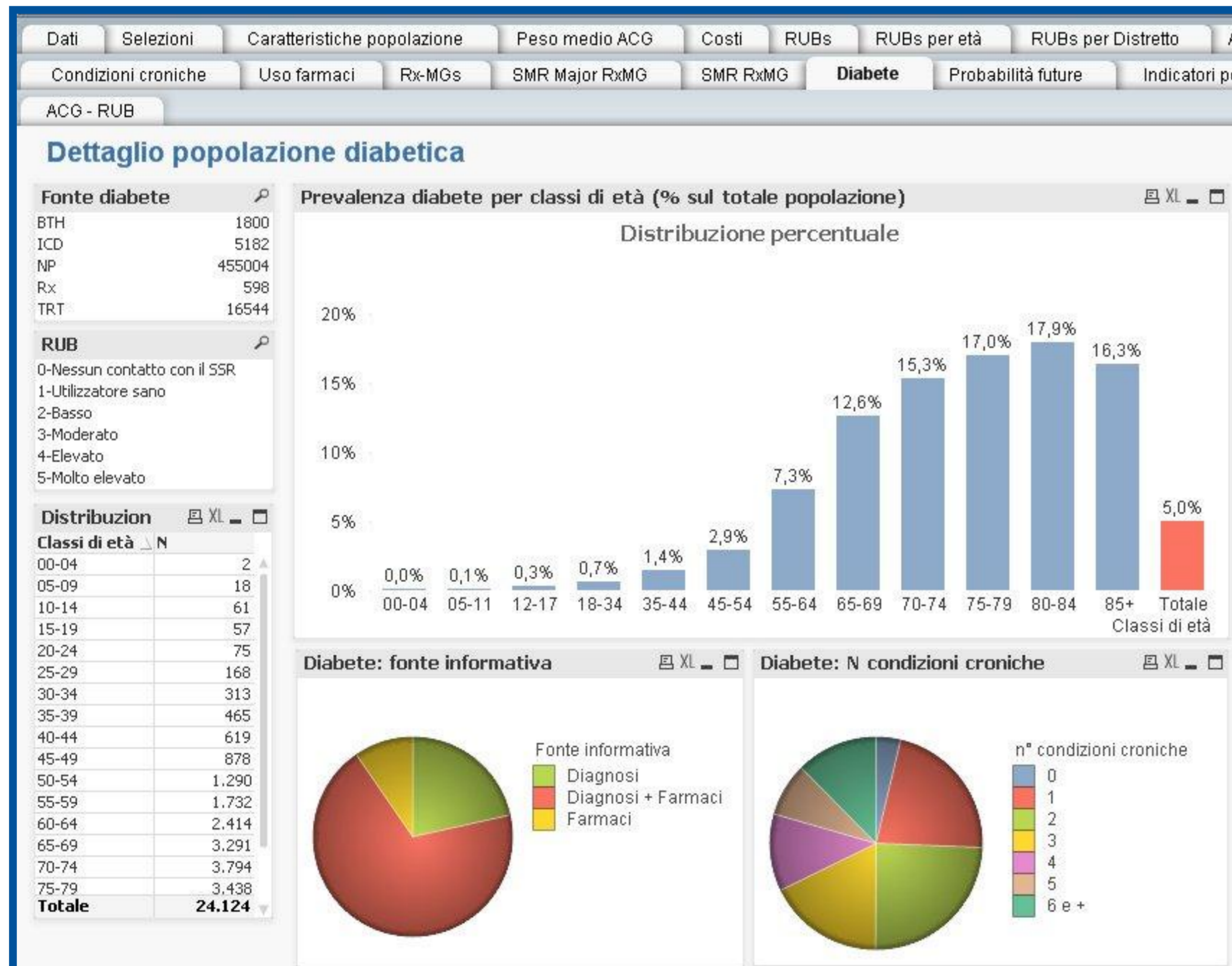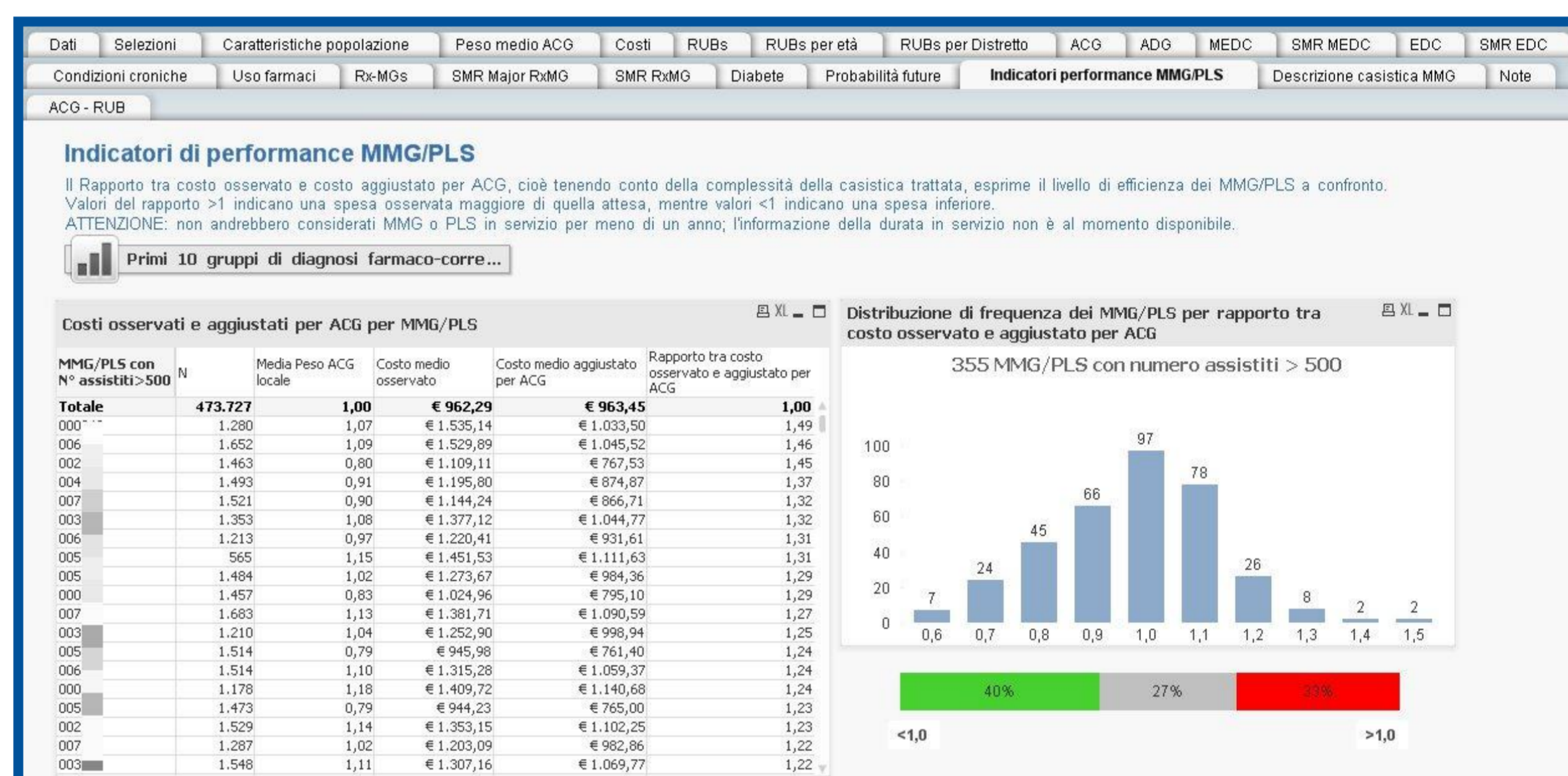
Results

In Italy, LHUs are working on the development of clinical pathways and disease management programs to guarantee homogeneous care to patients affected by the same morbidity-burden, taking into account the available local resources. For this purpose, it is possible to use the Qlikview Dashboard to select specific condition markers and then quickly have all the profiling and performance indicators calculated and viewed in one place. It is also possible to get more detailed data thanks to the easy drill-down and drill-up functionalities.

This way of working allows to better understand where problems are and which solution to implement. Among the advantages of using a BI tool, we underline the ease of use (end users require almost no training), the very fast response time on huge data volumes, and the fact that is all in one solution: dashboards, power analysis and simply reporting on a single architecture.

Conclusions

The use of Business intelligence system is widespread in private businesses, for-profit activities, organizations and also in healthcare. So far, several flows of data are sent to the Veneto Region from the 21 LHUs, but they are fragmented in silos, not linked to the person and scarcely usable. Using ACG output to feed the BI system generates outputs based on metrics (RUBs, EDCs, ADGs, etc…) that really matter to the decision-makers and the use of data visualization tools makes analyses and decisions easier.

The Business Intelligence methodology still needs to be fully developed, but the ACG system represents an optimal starting point to spread BI implementation in the Public Health System in Italy.