

> Régie Régionale

Healthcare agency improves quality and efficiency with PASW® Statistics*

Situation

The Régie Régionale de la Santé et des Services Sociaux Mauricie-Centre-du-Québec, or Health and Social Services Regional Board, is one of 18 public health ministries in Quebec charged with allocating and monitoring public health funds and organizing the public health system.

Challenge

In recent years, the agency's top initiative has involved increasing the life expectancy and improving the overall health of the Canadian people while also reducing healthcare costs. The agency discovered that by collecting and analyzing data, it could determine which factors lead to health problems or reduce life expectancy, and could then manipulate those factors to reduce health problems and thus overall health costs. To achieve its goals effectively, the agency needed a solution that enabled it to:

- Collect large amounts of data
- Consolidate the data from several disparate sources effectively
- Check the accuracy of data collected
- Analyze the data to improve healthcare while reducing costs

Solution

Pierre Ferland, the agent de recherche, or research agent, at the Regie Regionale, turned to SPSS Inc. to help the agency collect, clean, and analyze the region's health-care data. Today, with the help of PASW Statistics software, the agency has improved the life expectancy of its population while also decreasing healthcare costs.

Results

- Reduced road fatalities by 19 percent and hospitalization due to accidents by 13.5 percent
- Reduced long-term care needs and facilities required to support those needs by 16 percent
- Consolidated six gigabytes (6GB) of data from more than 20 disparate suppliers

* PASW Statistics, formerly called SPSS Statistics, is part of SPSS Inc.'s Predictive Analytics Software portfolio.

At a glance

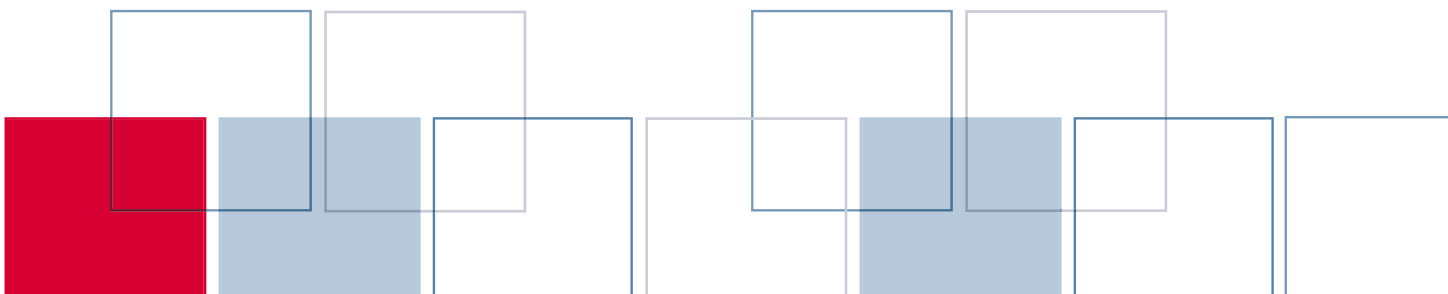
Country: Canada
 Industry: Healthcare
 Company type: Public

Application

Healthcare assessment

Solutions used

PASW Statistics



■ Healthcare assessment

Providing healthcare to more than 31 million people is an expensive proposition for any country, and cutting health benefits to sick people is simply not an alternative. That's why, in the late 1980s, the Régie Régionale de la Santé et des Services Sociaux Mauricie-Centre-du-Québec, one of 18 regional health ministries in Quebec, began a program to search for ways it could better and more cost-effectively meet the health needs of the nearly 500,000 people it serves.

In order to determine how to meet these health needs, the agency first needed to arm itself with information regarding which factors contribute to health problems. So, beginning in 1987, the agency began participating actively in the new Health Quebec surveys, frequently oversampling on the regional scale and thus collecting information ranging from the reasons for hospital visits and deaths to what causes an individual to lose self-sufficiency.

Reduced road fatalities by 19 percent and hospitalization due to accidents by 13.5 percent

Pierre Ferland, the research agent at the Régie Régionale, turned to SPSS Inc. for help in analyzing the health data the organization had collected. He found that road-related injuries and fatalities were a significant part of the population's health problems and healthcare costs. Using PASW Statistics to examine the reasons behind road-related injuries and fatalities, Ferland learned that the region could reduce these occurrences by making specific changes to improve highway safety.



“By effectively analyzing our healthcare data, we can determine and quantify the real needs of our people, thus giving them better services for less money. It is a winning situation for everyone.”

– *Pierre Ferland*
Agent de Recherche
Regie Regionale

For example, the agency used the analysis to discover areas where car accidents occurred frequently for drivers in the 15- to 24-year-old age range, pinpointing 12 locations that could be improved across the region. By working with the Ministry of Transportation to change traffic patterns—for instance, by introducing new stoplights or moving on- and off-ramps—the agency reduced the annual mean number of road fatalities in its region, Mauricie-Centre du Quebec, by 19 percent, in the period from 1989 to 1995. It also reduced the annual mean number of hospitalizations due to accident-related injuries by 13.5 percent, from the time period between 1987 and 1989 to the time period between 1993 and 1995.

The statistics aided the passage of legislation as well. Lobbyists were able to use the findings to argue successfully in favor of the passage of a seat belt law, an airbag law, and more stringent drunk-driving laws.



■ Healthcare assessment

Reduced long-term care needs and facilities by 16 percent

As a result of its analysis, the agency also made more effective use of its existing resources. For instance, in 1995, the region funded 3,244 beds in long-term care facilities—the most expensive type of extended care facilities—for individuals more than 65 years old. That is about 4.4 beds per 100 senior citizens. However, the national ministry set a goal of reducing the number of needed beds to 4.0 per 100 senior citizens, or 2,994 total, by the year 2001.

“By examining senior citizens’ needs using PASW Statistics, we were able to provide more efficient and cost-effective services—either provided by the community, such as programs for meal delivery, or provided by the healthcare system, such as in-home nursing aid,” said Ferland. “These services met senior citizens’ needs and allowed them to continue living in their own homes instead of moving to a long-term care facility.”

Today, thanks to these efforts, the agency has greatly surpassed the national ministry’s goal of 4.0 beds per 100 senior citizens. Now, only 3.6 beds per 100 senior citizens are needed in the region. That is 515 fewer beds, or a 16 percent drop in the number of required beds, in just five years.

Consolidated six gigabytes of data from more than 20 disparate suppliers

One of the biggest ongoing challenges in the Board’s analytical process is the integration of data from disparate sources. It needs to draw data from more than 20 sources, including other organizations within the country, such as the Ministry of Transportation. To complicate matters, Ferland must pull data from several non-standard sources, including some that have already been aggregated, such as census data.

PASW Statistics is instrumental in helping Ferland consolidate the six gigabytes of data the agency analyzes today—a database he expects to grow to 35 gigabytes by 2005. Ferland can use the software, for instance, to evaluate the quality and improve the usefulness of economic data using data cleansing techniques. “Every time we explore a new field of inquiry, we usually use PASW Statistics,” Ferland said.

Ferland is now working with other agencies to build a central health database for all of Quebec’s regional boards. “By effectively analyzing our healthcare data, we can determine and quantify the real needs of our people, thus giving them better services for less money,” Ferland said. “It is a winning situation for everyone.”

□ “By examining senior citizens’ needs using PASW Statistics, we were able to provide more efficient and cost-effective services—either provided by the community, such as programs for meal delivery, or provided by the healthcare system, such as in-home nursing aid. These services met senior citizens’ needs and allowed them to continue living in their own homes instead of moving to a long-term care facility.”

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