

Driving Better Data through Province-wide Integration

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The Quebec healthcare system is a public system overseeing 8.6M people with almost no private healthcare to relieve the burden on the public healthcare system. The adoption of Bill N° 10 brought about significant changes in the organizational structure and governance of the health and social services network. As a result, 131 establishments became 34.

This decentralised approach under which Quebec operated for many years translates into a provincial current use of at least 200 different systems, each having different fields, values and definitions, validation and management rules. In addition, the data has historically remained with the vendors of these systems and government users had restricted or limited access to their own data. In 2016, the Cost per Clinical Care Pathway Project (CPSS) was launched and in 2017 PPM was selected as the provincial costing solution for all of Quebec. As part of this provincial project, one of the main challenges faced was to bring all this disparate data into the PPM costing system while ensuring it was standardised and normalised and of course timely.

Previously, the integration component of a costing implementation in Quebec, had been handled site by site, which I believe is the methodology generally employed around the world. Furthermore, even though Bill N° 10 has been in effect for almost 5 years, few establishments had started the transformation of their information systems, thereby requiring the development of a broad range of solutions to the current situation.

As a result, the following methodology was employed:

- Contract with the vendors of each system to provide a standardised view of their data.
- Use a framework specifying provincial mapping and validation rules that encompass every possible system, field and value across the 200 systems.
- Use Mirth to connect to each view (called connectors) and prepare a normalised view of the data so that the information is comparable across sites.
- Integrate the connectors to the PPM costing system to provide the data on a monthly basis, with the aim of moving to an hourly basis in the next phase of the project.
- Finally, ensure the data is suitable to drive KPIs, benchmark portal, costing analysis and ABF.

Naturally, a number of obstacles presented themselves along the way, for example:

- Atypical use of source systems.
- Data included in unexpected systems.

- Some systems' architecture was difficult to harmonize into normalised data structures.

Despite the enormous complexity of the project, a number of positive outcomes were achieved:

- Consistent information format produced by the connectors. Information homogeneity facilitates costing, benchmarking and other related tasks.
- Incident data across many sites loaded into the costing system, rather than piecemeal approach that relies on each site to comply to the agreed standard.
- Comparison of data that would not be available across all sites, e.g. in-house systems, showing how this approach provides all sites with this often hard to get data and its comparability as well.
- Automated data portal comparing hospitals across the province.