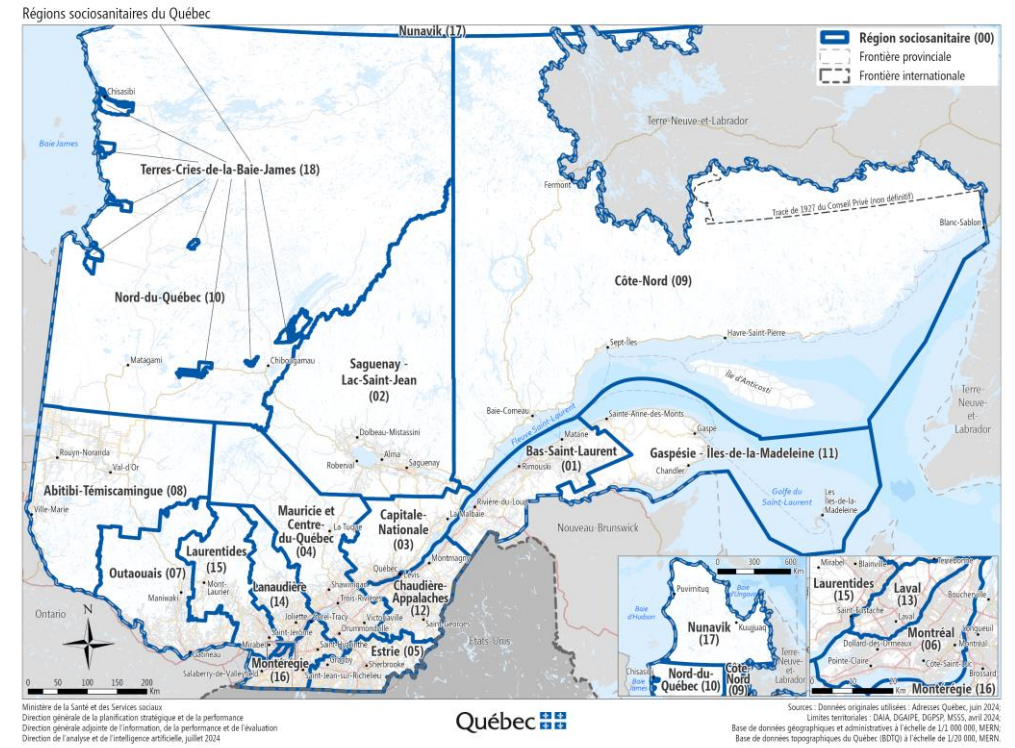
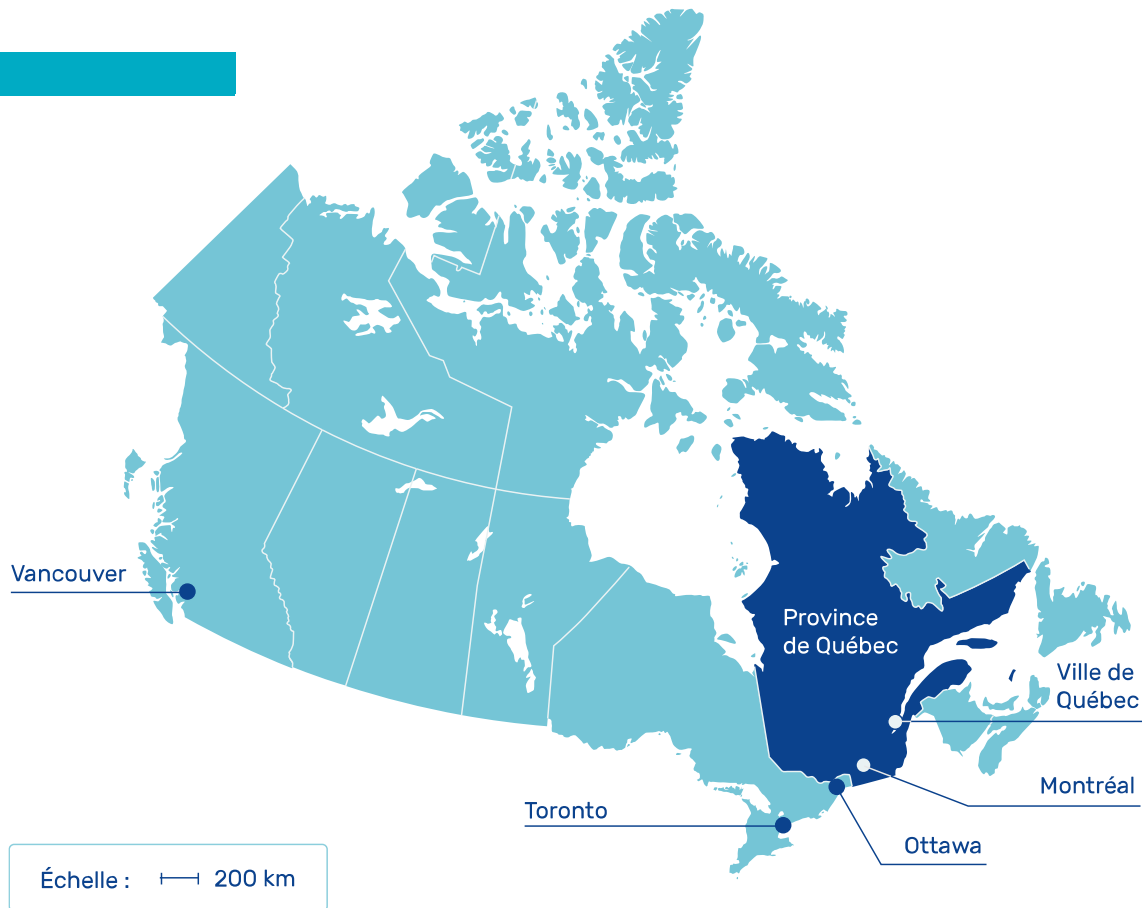


Mobilizing clinicians with costing data : the strategy at CHU de Québec – Université Laval



Thijs Hemeryck, deputy director of digital transformation.
Directorate of Performance, data valorization and digital transformation



Health and social services in Québec

Population : 9 M people

Health and social services budget: 65,5 G CAD

380 000 workers, 25 000 doctors

Recent years' highlights in the Quebec health and social services network

Rapport du Groupe d'experts pour un financement axé sur les patients

POUR QUE L'ARGENT SUIVE LE PATIENT

L'implantation du financement axé sur les patients dans le secteur de la santé

Février 2014



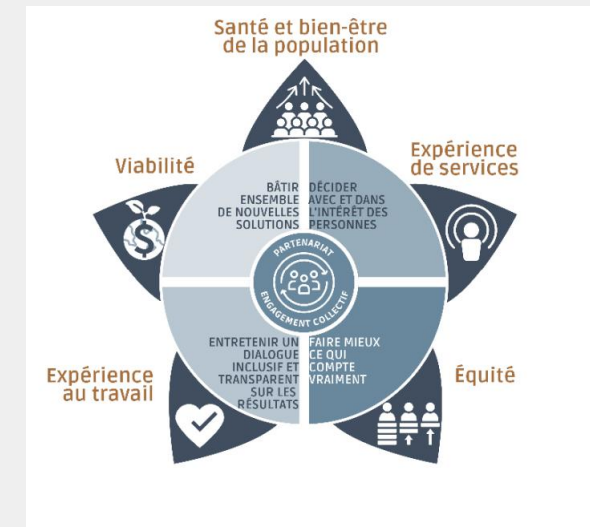
Québec

2017-2021 :
implementation
of a case costing
Solution &
IT infrastructure



Law 5 (health system reform)
Law 15 (health data reform)

Transformation plan



The CHU de Québec - Université Laval at a glance



THE LARGEST UNIVERSITY HOSPITAL CENTRE (CHU) IN QUEBEC AND ONE OF THE LARGEST HOSPITAL CENTRES IN CANADA

Territory served

All of Eastern Quebec
and Northwestern
New Brunswick

Clientele

Potential

Near
2 million
people



Personnel

12 954 Employees

1 668 Doctors, dentists and pharmacists

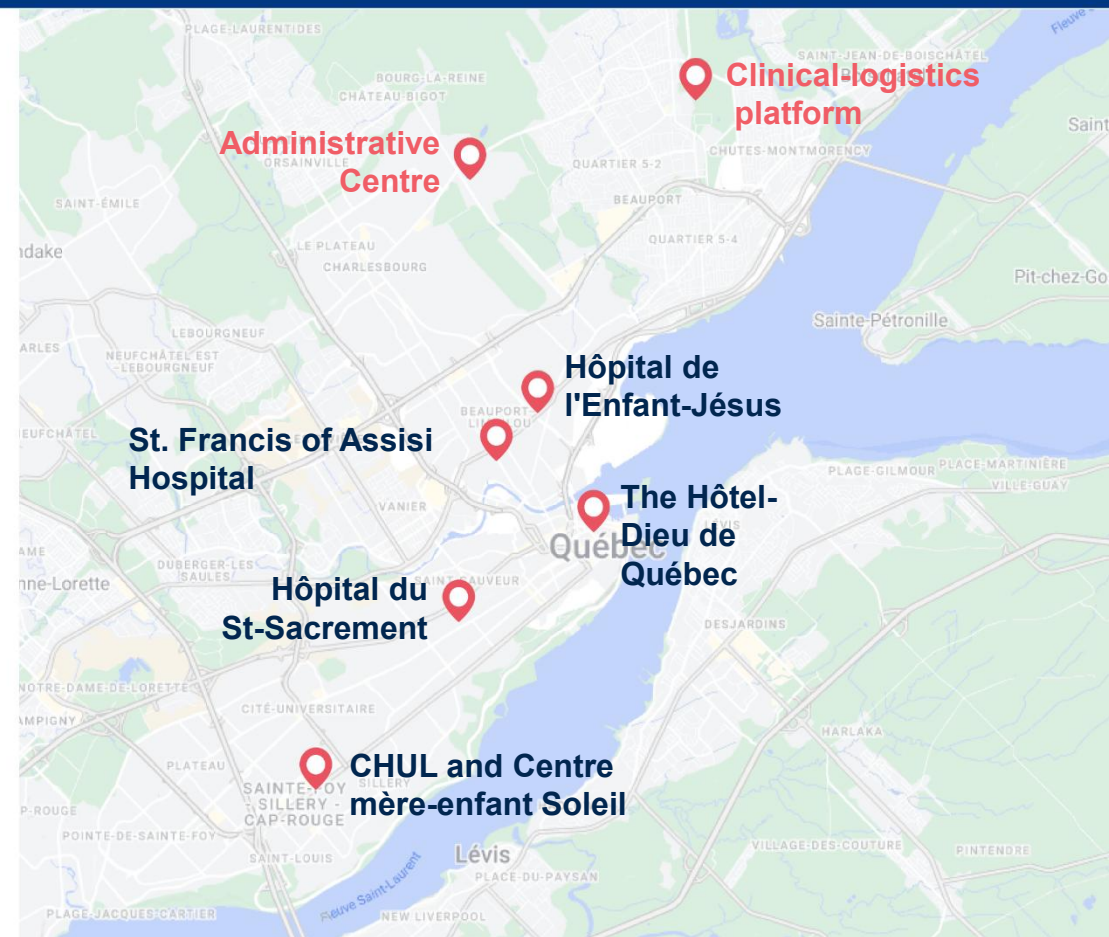
257 Volunteers

3 838 regular and associate researchers,
Affiliates and Honoraria, Employees
from the CHU research centre,
graduate student
and Postdoctoral Fellows¹

Total

18 717

¹ Data as of March 31, 2022. Data as of March 31, 2023 will be validated in the fall of 2022. These figures come from the 2021-2022 Annual Report of the CHU de Québec-Université Laval Research Centre.



The University Hospital at a glance



Our Mission

- Care and services
- Teaching
- Research
- Evaluation
- Innovation
- Health Promotion

Five hospitals

Hospital Center of Université Laval (CHUL)
Hôpital de l'Enfant-Jésus (HEJ)
Hôpital du Saint-Sacrement (HSS)
Saint-François d'Assise Hospital (HSFA)
The Hôtel-Dieu de Québec (L'HDQ)



1 255
Beds

50,000

pieces of specialized
medical equipment, with
a value of

\$400 million



Territory served

All of eastern Quebec
and northwestern
New Brunswick

Potential customers

Nearly
2 million
people



Teaching

217,398 internship days
The equivalent of a school with
more than
800 full-time students every day

Research¹

Total Funding:
\$106,031,104M

Largest
French-language health research
center in North America



Evaluation of technologies and modes of intervention Healthy

9 new publications,
for a total of **184**
since 2006

Personnel

12,954* Employees

1 543 Doctors
Dentists
and pharmacists

257 Volunteers
(21,038 hours of compassionate
support
in the five hospitals)

3 838 Regular and associate
researchers, affiliates and
honorary researchers,
employees of the CHU
research centre, graduate
students and postdoctoral
fellows¹

Total

18 592* Total

¹ Data as of March 31, 2023. Data as of March 31, 2024 will be validated in the fall of 2024. These figures come from the 2022-2023 annual report of the CHU de Québec-Université Laval Research Centre.










Our clinical expertise

Hôpital de l'Enfant-Jésus

-  Severe burns
-  Traumatology
-  Neurosciences
-  New complex hospitable
-  Oncology
-  EVAQ
-  Research
-  Urgency








CHUL and Centre mère-enfant Soleil

-  Obstetrics
-  Assisted Reproduction
-  Gastroenterology
-  Paediatrics
-  Research
-  Chronic pain
-  Pediatric and Adult Emergency

Hôpital du St-Sacrement

-  Breast Cancer
-  Urgency
-  Ophthalmology
-  Research
-  Regional and Community Hospital
-  Oto-rhinolaryngology

The Hôtel-Dieu de Québec

-  Nephrology
-  Cochlear Implant
-  Research
-  Epithesis
-  Hemato-oncology
-  Oncology
-  Urgency

St. Francis of Assisi Hospital

-  Vascular Health
-  Obstetrics
-  Regional and Community Hospital
-  Research
-  Urgency

Administrative Centre

-  Human resources
-  Finance
-  Procurement and contract management

Clinical-logistics platform

-  Food Services
-  Pharmacy
-  Reprography
-  Warehousing and distribution

The directorate of performance, data valorization and digital transformation : expertise and service offer



Costing data : the mobilization strategy at CHU de Québec – Université Laval



Overview



Position costing vs
quality and value



Strategic focus



Adjust governance



Implement
projects



Contribute and influence
provincial level

1 : Costing as a key component of value-based healthcare

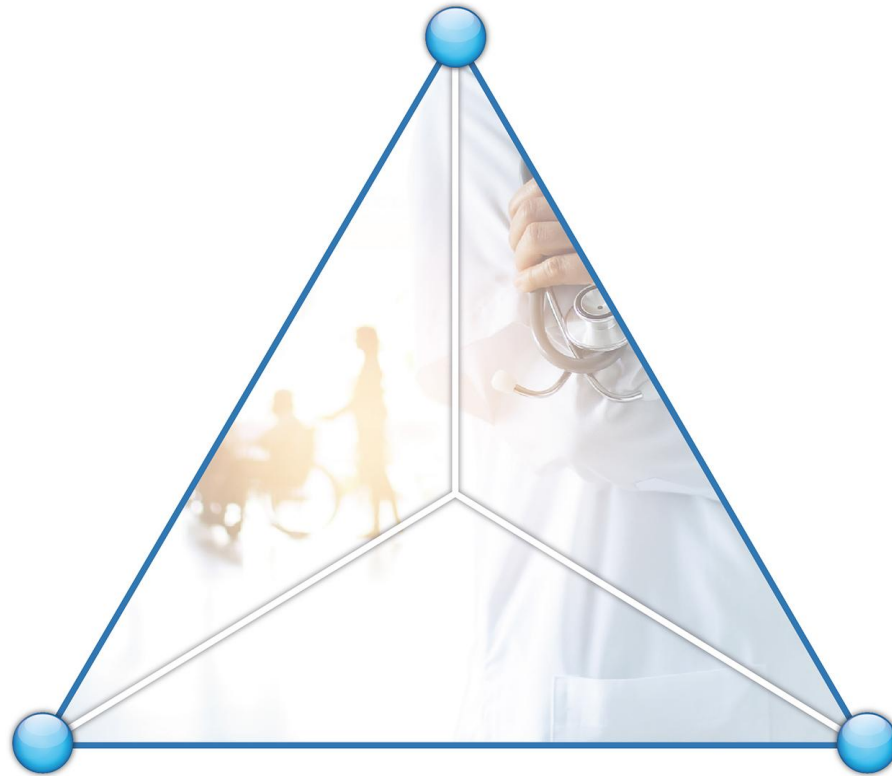


**Meilleurs résultats
possibles**

« Better Health »

**Meilleurs
coûts
possibles**

« Better Cost »



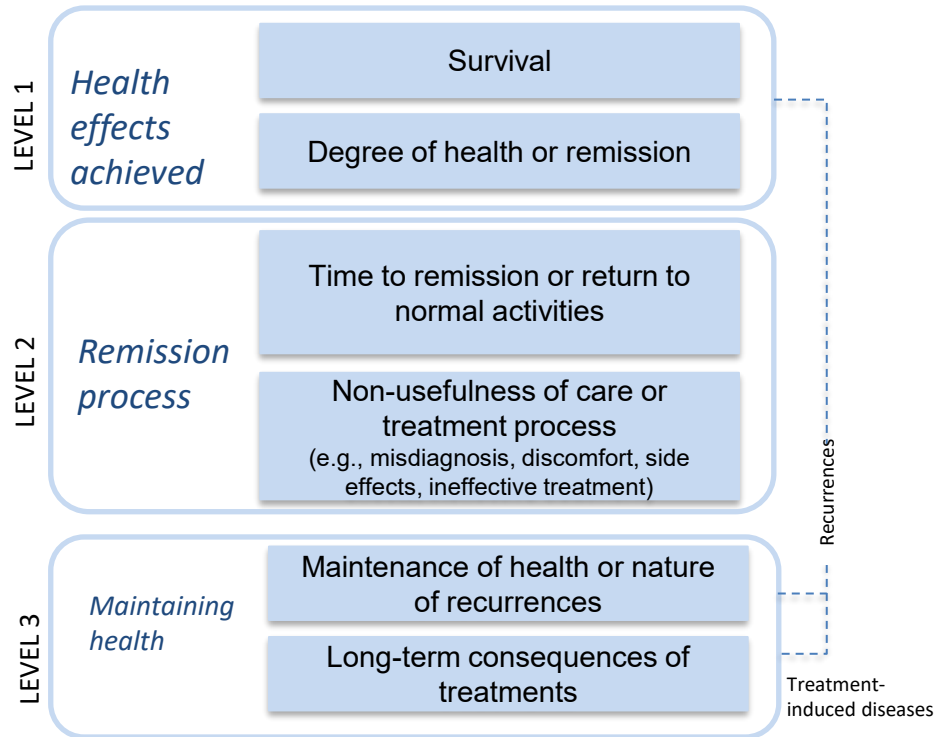
**Meilleure
expérience
possible**

« Better Experience »

Axis 1: Best possible results



Hierarchy of Care Outcomes (Michaël Porter)



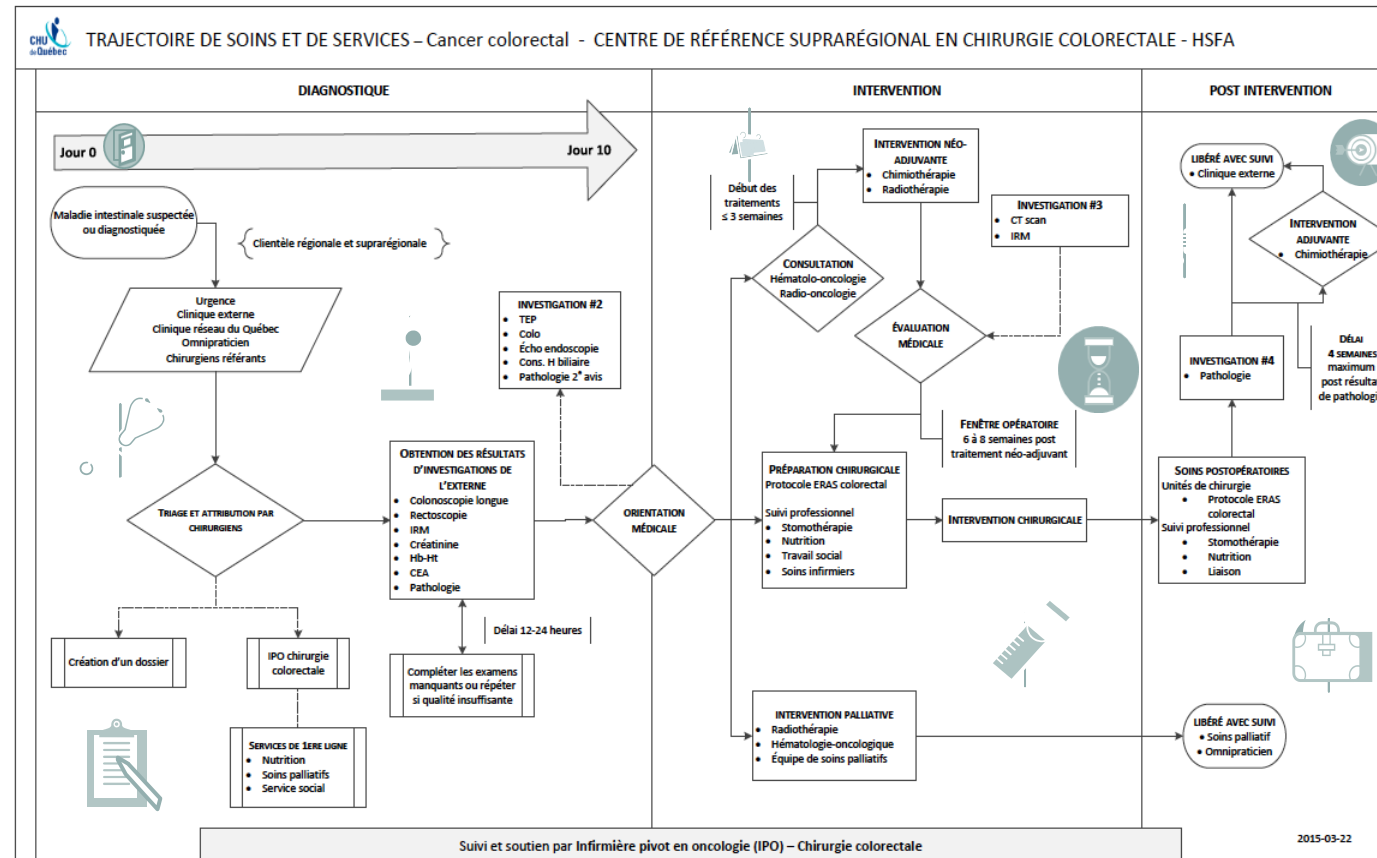
- Complications that prolonged the care stay
- Complications leading to a stay in the ICU
- Complications causing death
- Unplanned readmissions



Example: colorectal trajectory

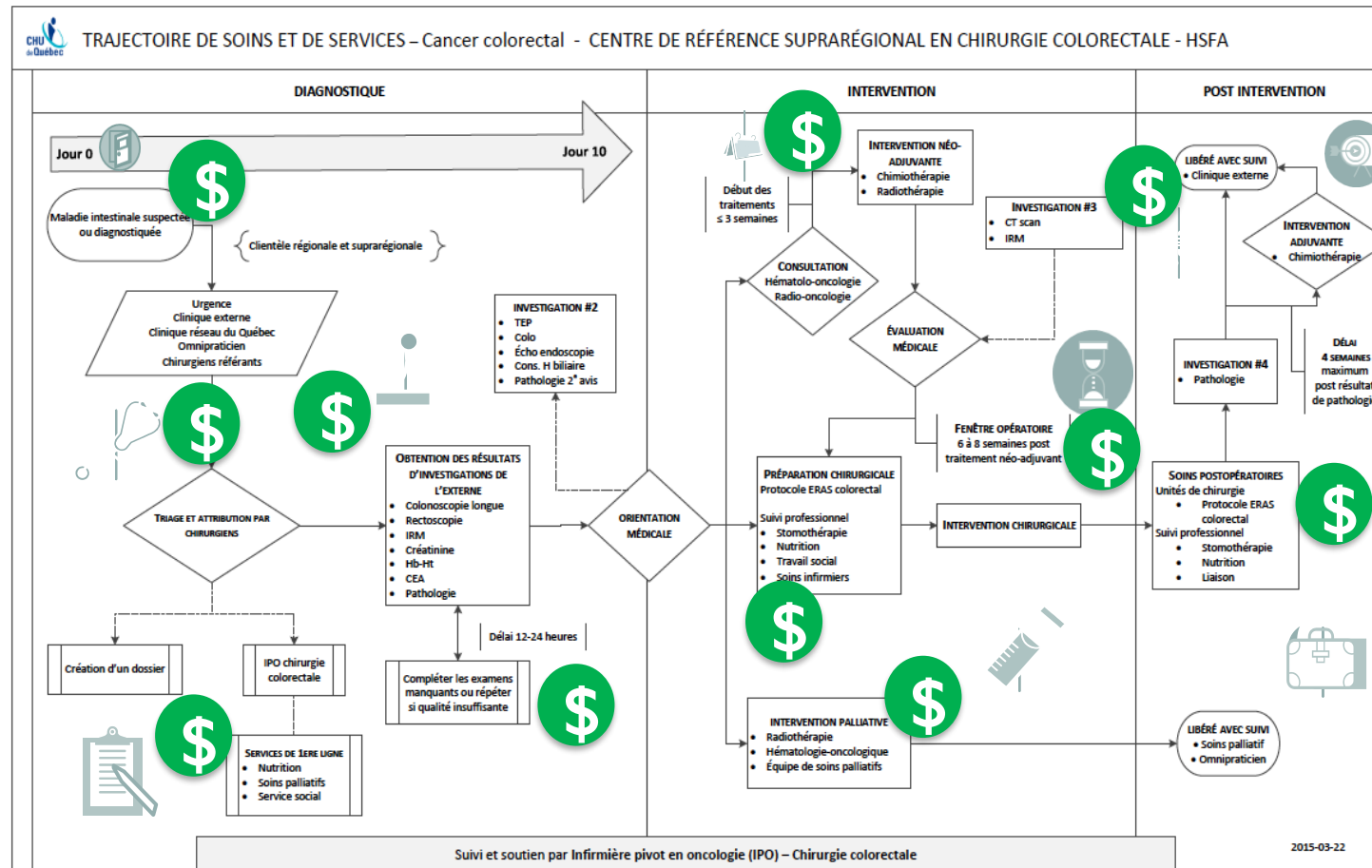
Axis 2: Best possible costs

- Evidence-based mapping and understanding of trajectories of care and services provides clarity on interactions and patient pathways (colorectal cancer)



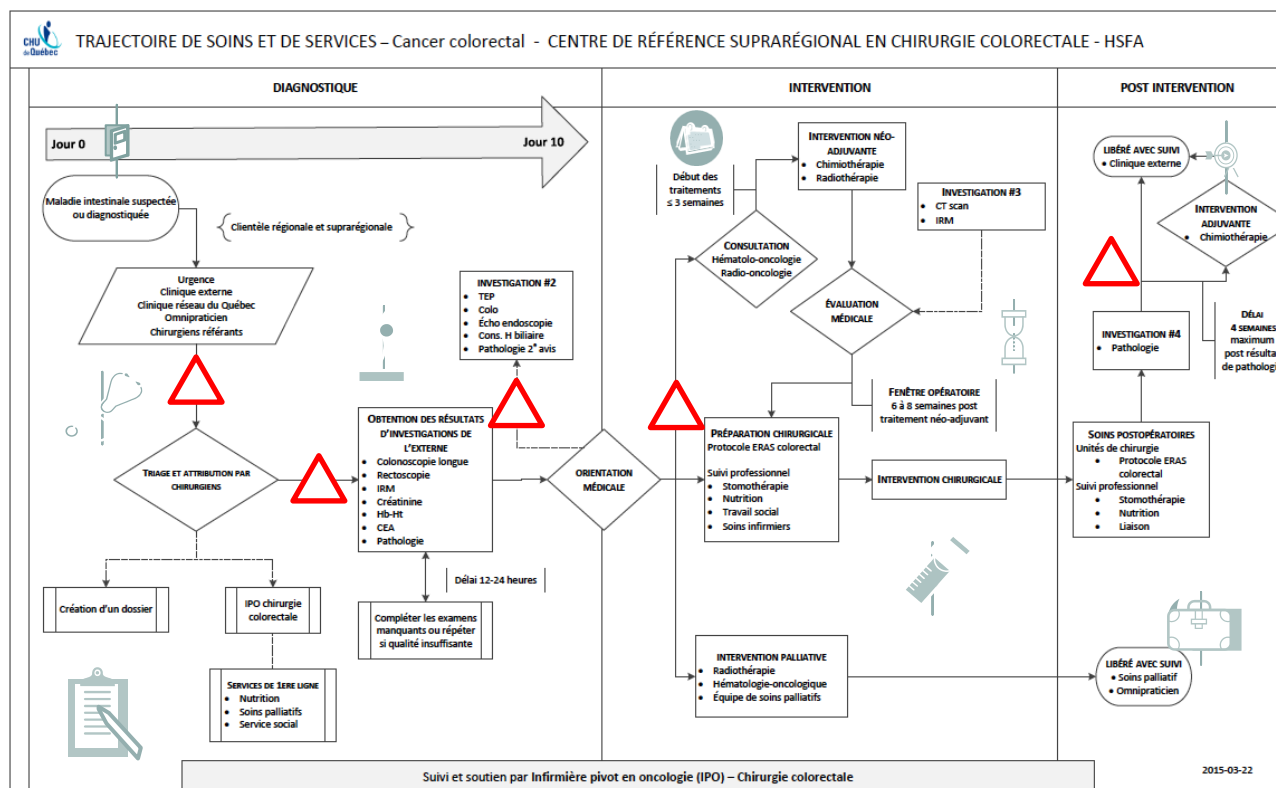
Axis 2: Best possible costs

- The **cost per care and service pathway** must be understood and broken down for each patient/user and for each health problem (optimal use of the *Power Performance Manager software*)



Axis 3: Best possible experience (time and patient experience)

- Time-bound trajectory based on evidence and best practices for each activity
- Consideration of patient experience measurement



- On-time compliance rate
- Patient experience evaluation (overall satisfaction rate)

△ = Deadline



Strategic focus

2023-2027 strategic plan

Our Mission



To provide the population of eastern Quebec with state-of-the-art health care and services through our ongoing commitment to research, teaching, and the evaluation of health technologies and intervention methods, while ensuring health promotion and innovation.

Our Vision



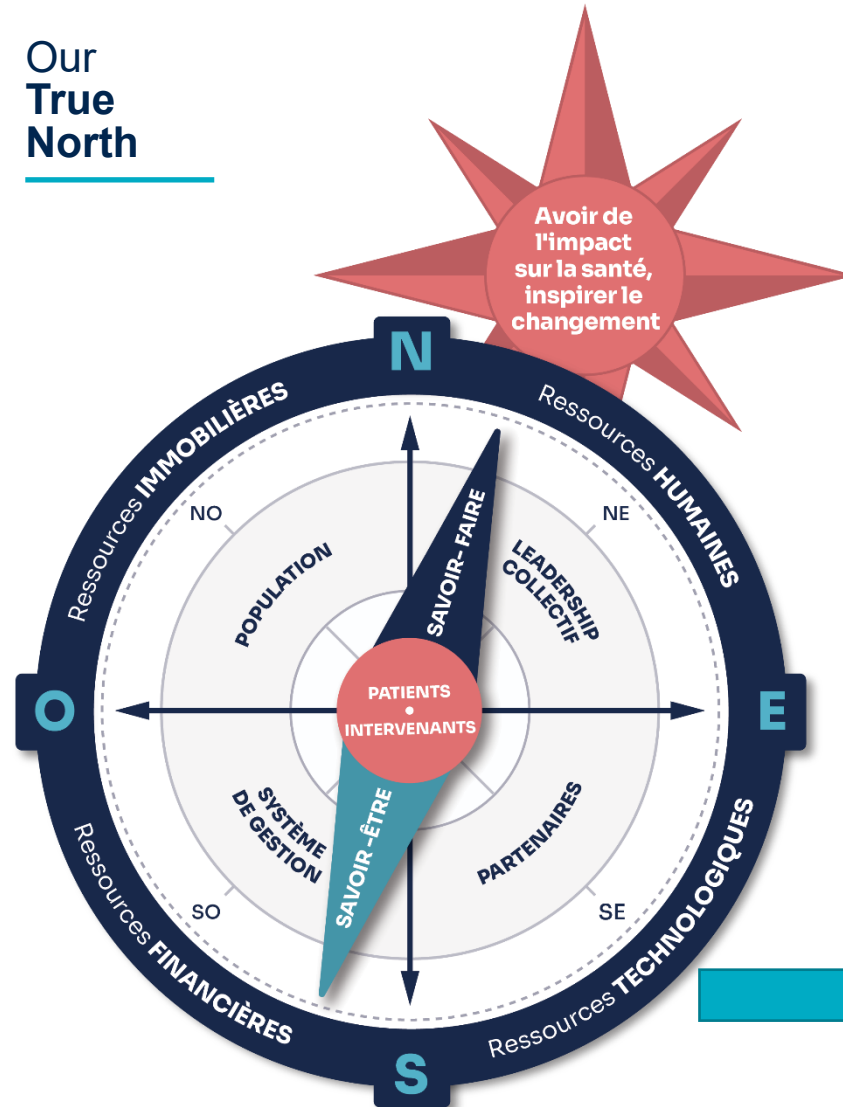
Through the strength of our teams and in partnership with our patients, to be an international leader through the quality of our clinical, scientific, pedagogical and management services.

Our values



- Benevolence
- Engagement
- Partnership
- Transparency
- Continuous improvement

Our True North



Our priority objectives

For patients

Provide equitable and timely access



For Speakers

Building an organization that we are proud of and want to commit to



Interpersonal skills and know-how

Collectively ensure safe, relevant and efficient care and services

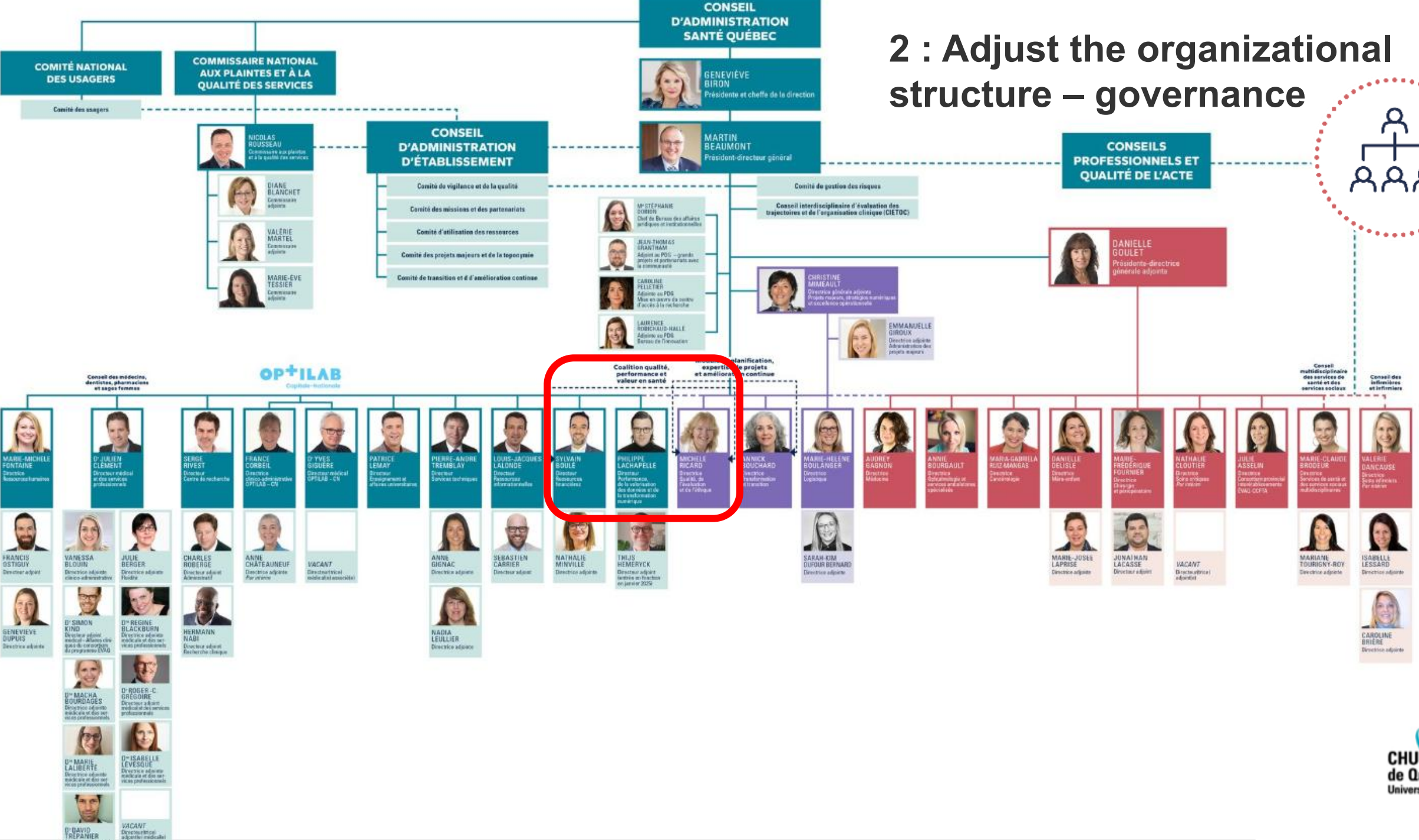


Resources

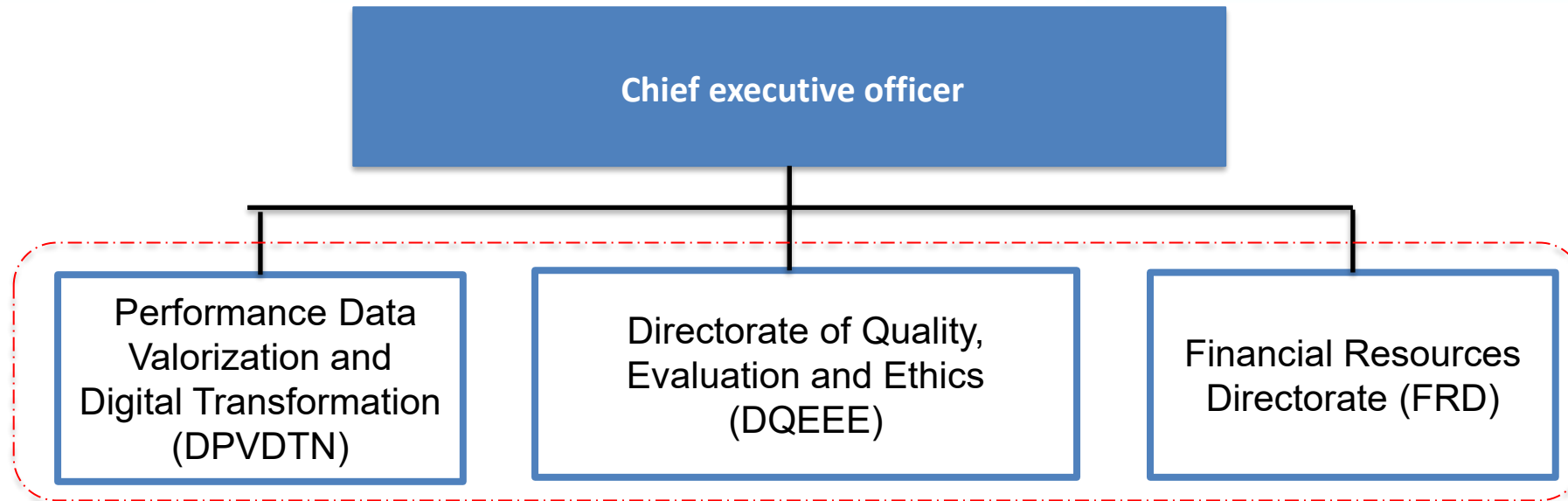
Looking to the future to face the challenges of transformation and be a reference in sustainable development



2 : Adjust the organizational structure – governance



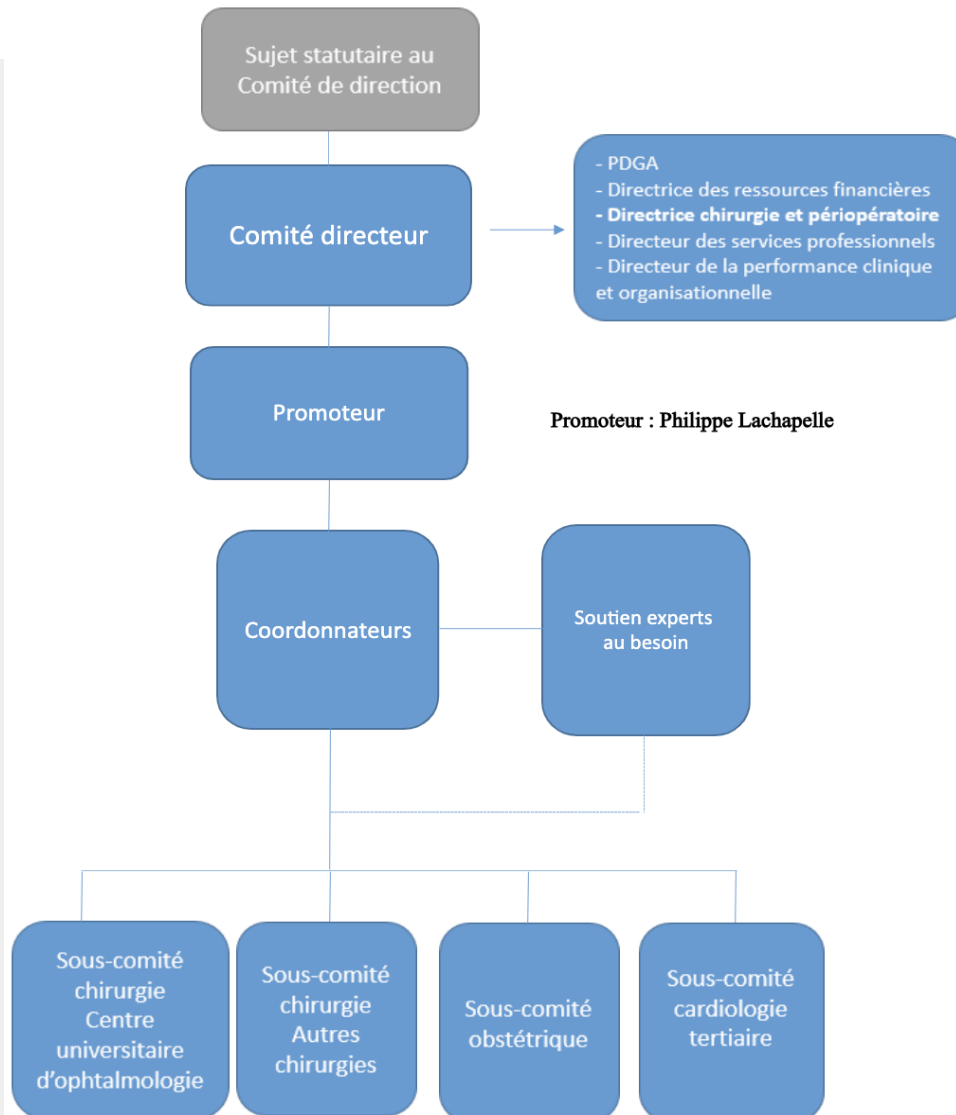
Organizational structure as a lever



Clinical Performance and Value-Driven Healthcare Coalition

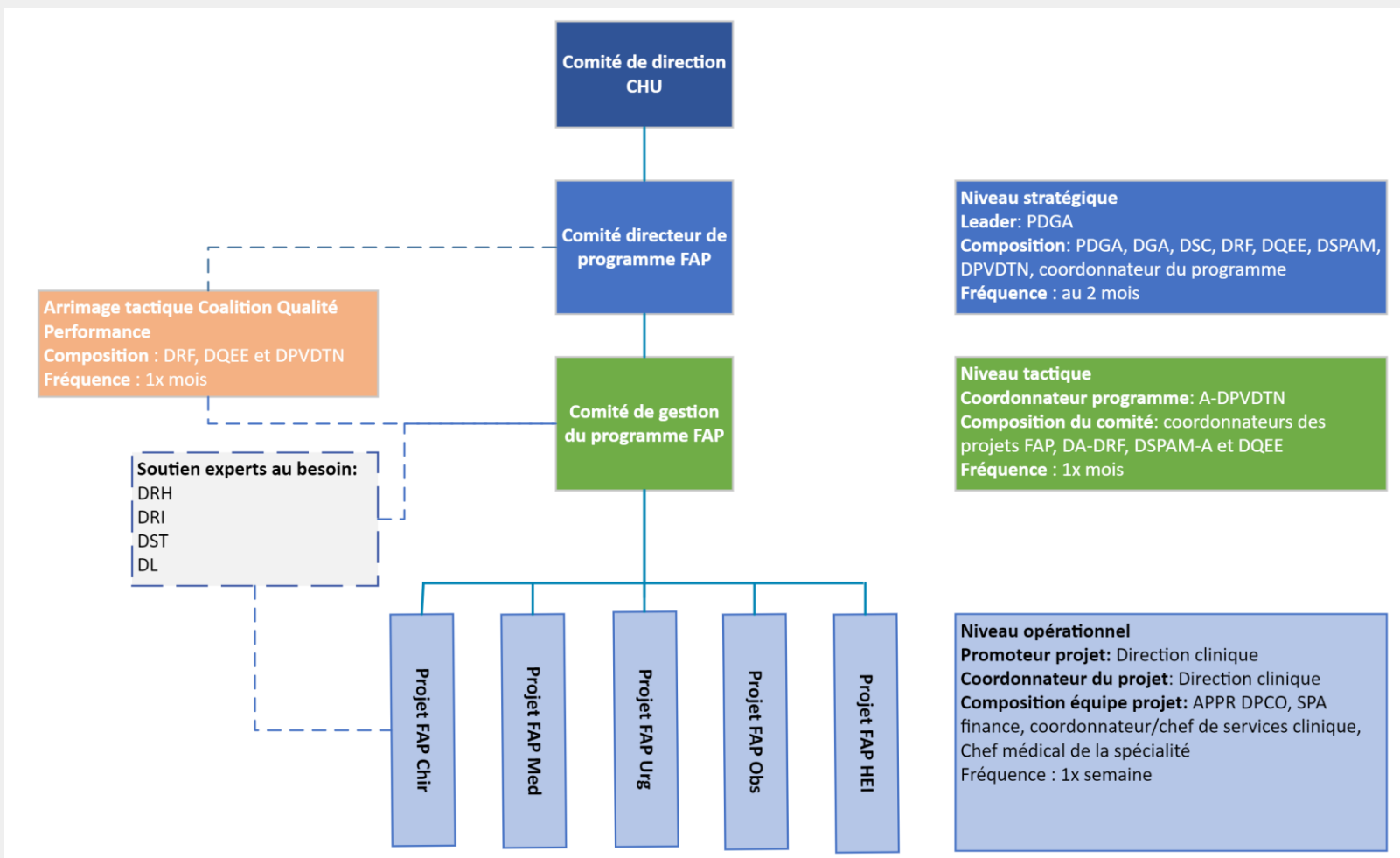
- Develop an integrated vision of quality and clinical and organizational performance (value creation)
- Manage the implementation of new funding methods in an integrated and coordinated manner
- Positioning the CHU de Québec – Université Laval data lake as a lever for clinical transformation

Governance structure adjustments: Iteration 1 – lessons learned



- 2 of the members of the Quality Performance Coalition (DQÉÉ, DRF) are on the periphery of the project;
- Project promotor : not the clinical director, so not the first recipient of FAP benefits;
- Informational asymmetry;
- The program coordinator is involved in operations (not sustainable in the long term. re: capacity);
- Low sense of urgency in clinical directions, despite accelerated FAP implementation (at the time) ;

Governance structure adjustments: Iteration 2

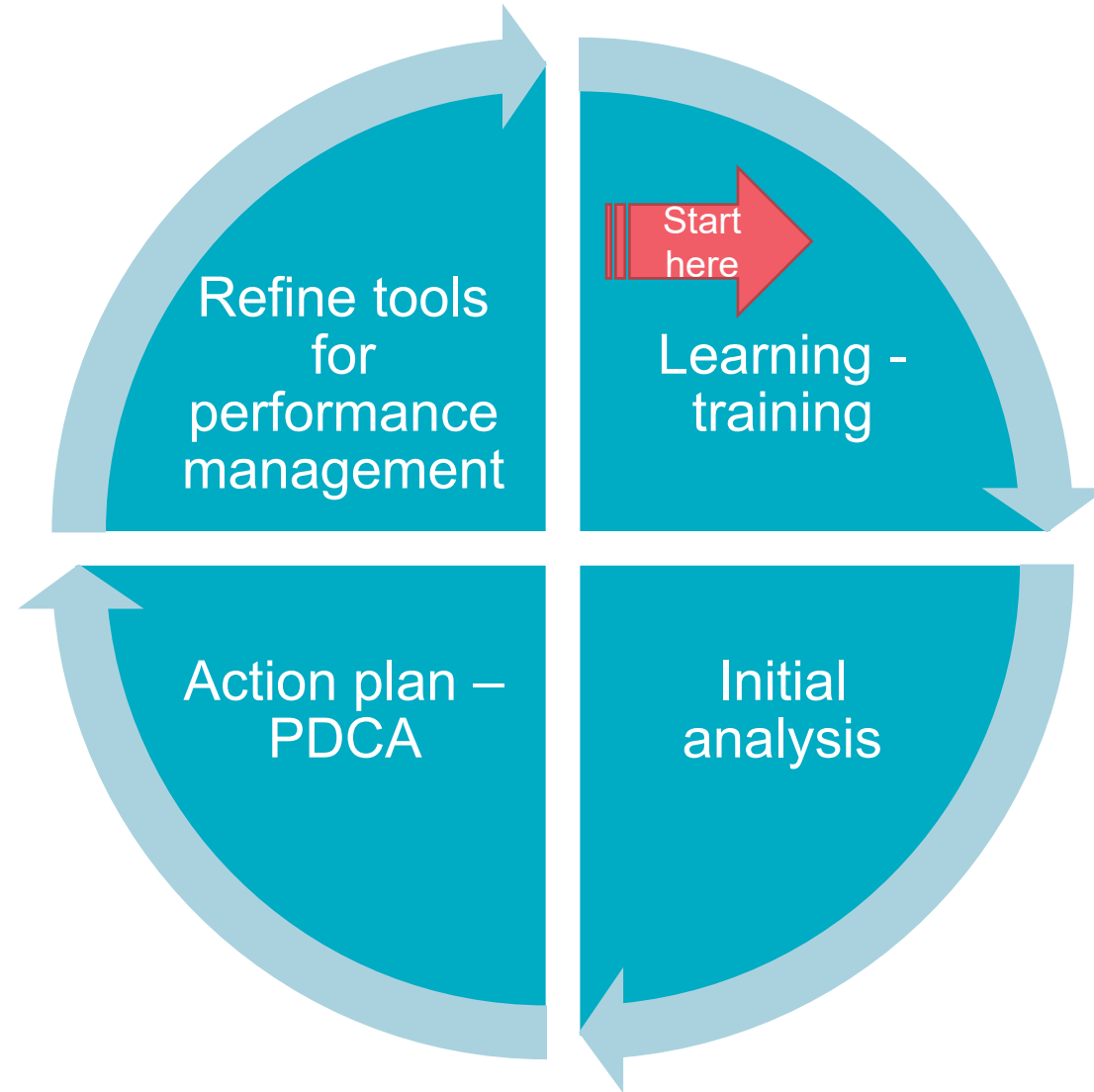


Management by program

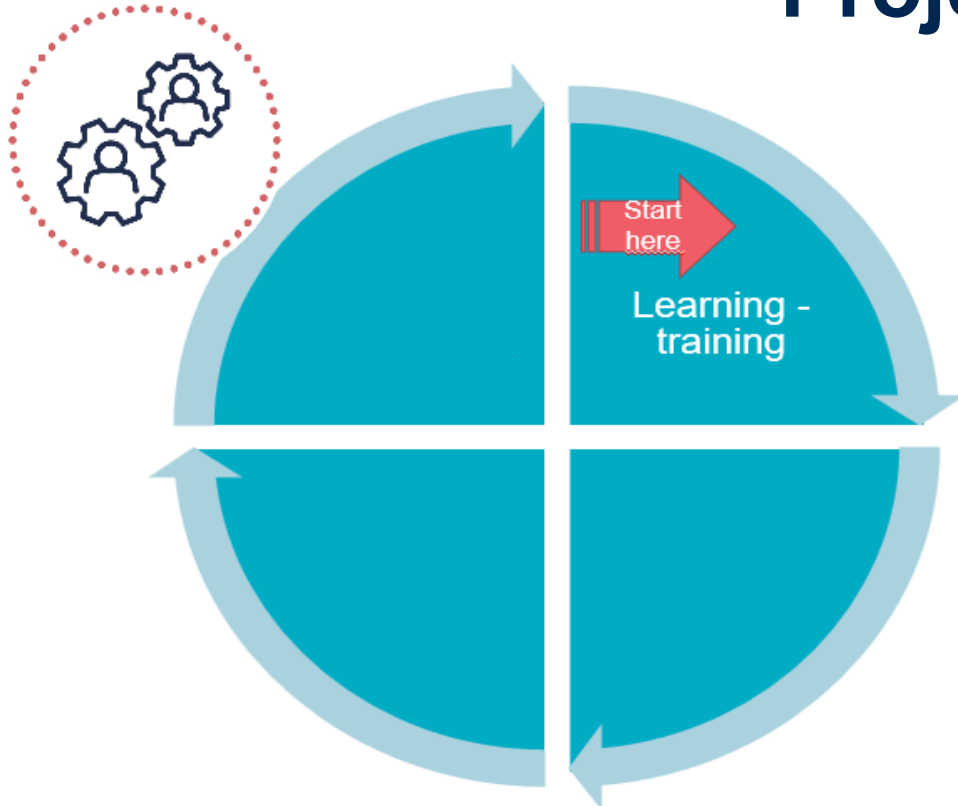
- Structure and execution machine
- Predictability
- Visibility
- Increased accountability for the clinical directors.
- Consolidation of the project approach at program level



Implementing a project around costing, funding and value with clinicians



Projects with clinicians : phase 1



- **GEMBA in the relevant sector(s)**
- **Clarification of notions and concepts**
 - ▶ Cost per care pathway and services
 - ▶ Resource allocation
 - ▶ Patient-Focused Financing & My Sector
 - ▶ Value-Driven Healthcare
- **Role and impact of clinicians**

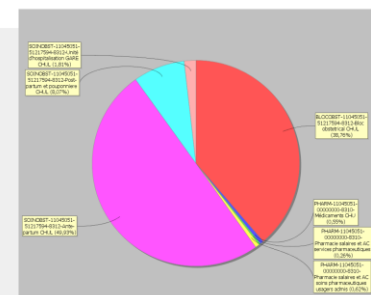


Coûts d'un épisode d'une césarienne au CHUL

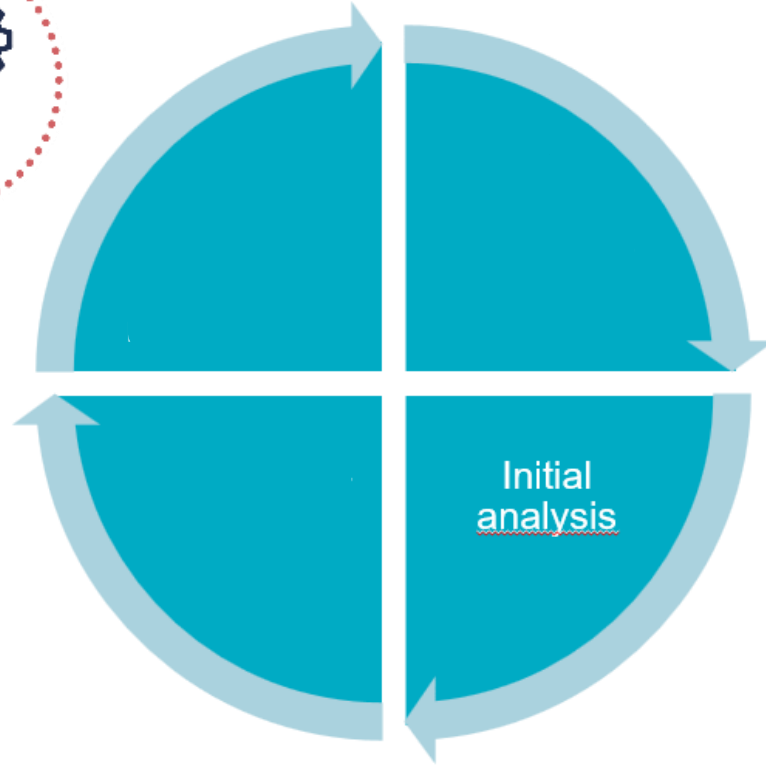
Total alloué
\$7 362,48

Directs: \$6 024,47
Indirects: \$1 338,02
Usager est sorti: Vrai
Episodes incomplets: Aucun(e)

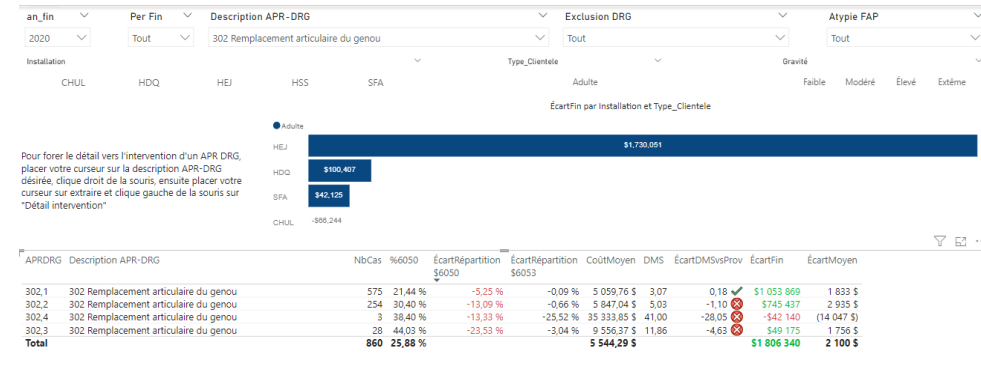
Secteurs	Directs
BLOC OBST-11045051-51217594-8312-Bloc obstetrical CHUL	\$2 394,17
PHARM-11045051-00000000-8310-Médicaments CHU	\$39,88
PHARM-11045051-00000000-8310-Pharmacie salaires et AC...	\$38,72
SON OBST-11045051-00000000-8312-Pharmacie salaires et AC...	\$38,51
SON OBST-11045051-51217594-8312-Unité post-partum CHUL	\$2 994,57
SON OBST-11045051-51217594-8312-Post-partum et poupo...	\$448,02
SON OBST-11045051-51217594-8312-Unité d'hospitalisation	\$99,80



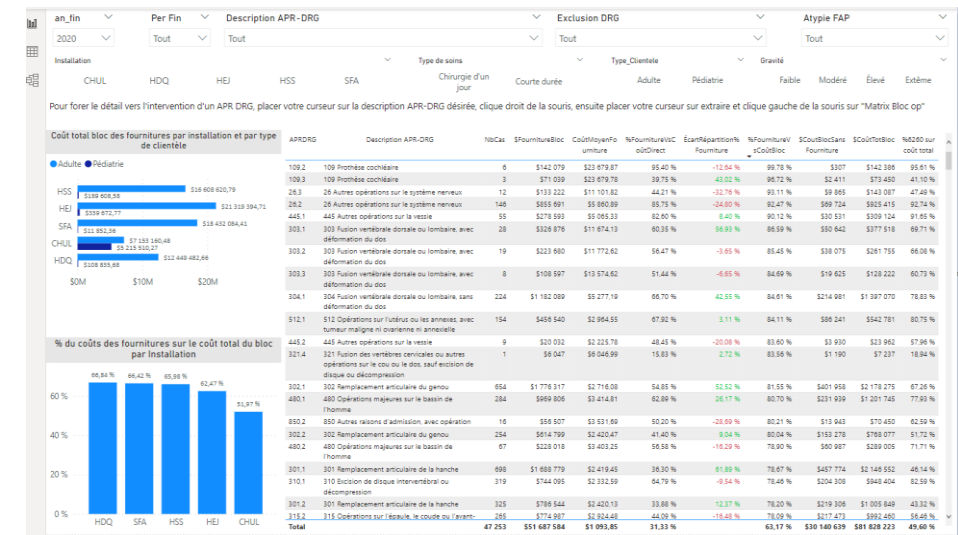
Projects with clinicians : phase 2



Cost & LOS analysis tool

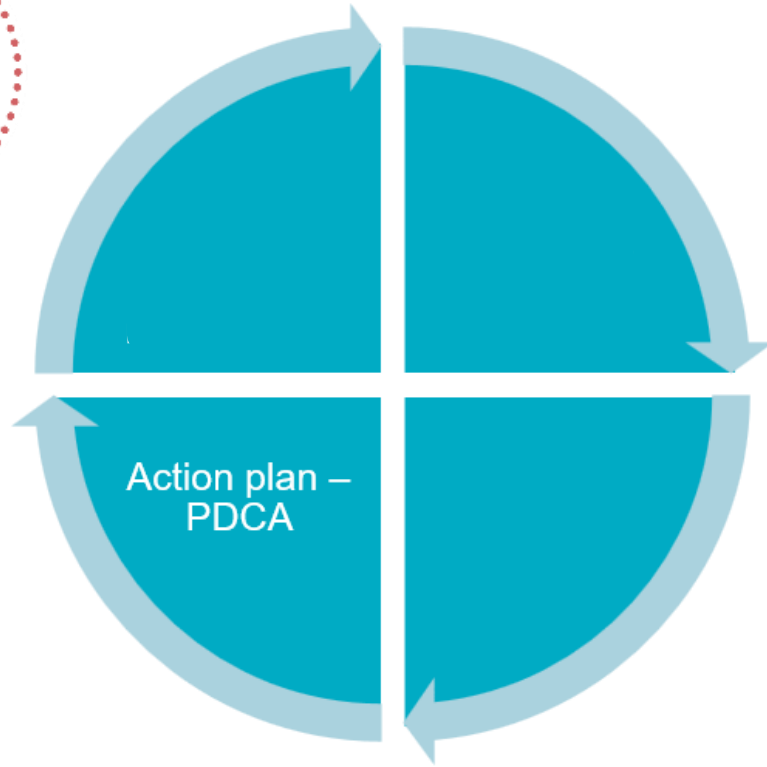


Cost bucket analysis tool



- Benchmarking
- Care trajectory mapping
- Portrait of clinical performance
- Portrait of quality, safety and relevance
- Documentation and quantification of specificities
- Short-term action plan

Projects with clinicians : phase 3



The clinical directorate is responsible for the analysis of results, with the support of the DRF/DPVDTN/PEPAC coalition, and implement actions to improve all aspects of performance

Learnings (obstetrics):

Cost - CPSS:

- Epidural probes and trays
- Nurseries
- Induction of labor
- VBAC (Vaginal Birth After Cesarean)

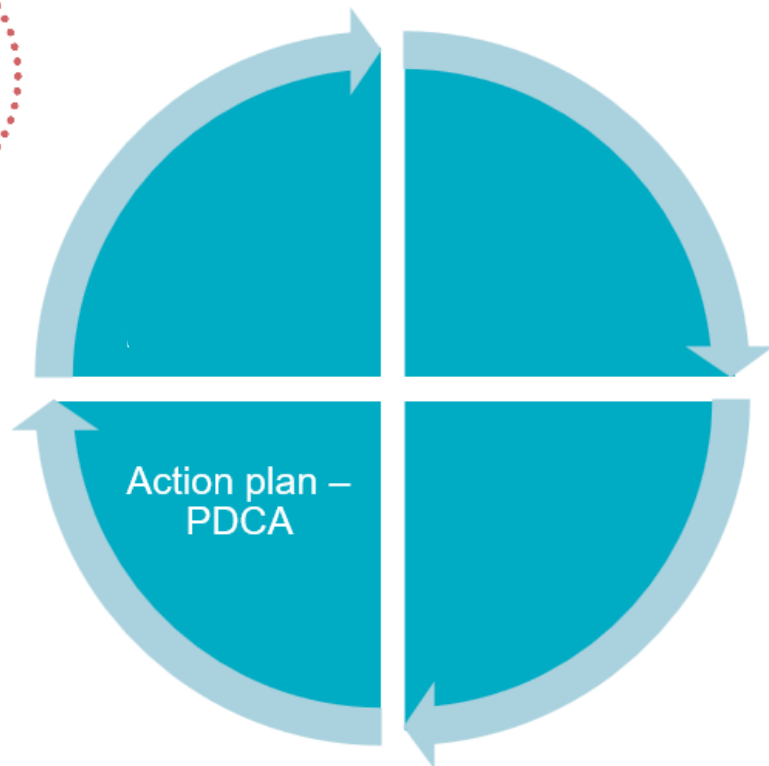
Revenue- funding :

- GARE (High-Risk Pregnancies) (improvement of MSSS method)
- Funding outside of FAP
- Revenue from rooms
- Rate enhancement for baby transfer

Clinical Practices:

- Cesarean sections
- Vaginal deliveries of twins
- Cervical ripening with probe (on an outpatient basis)

Projects with clinicians : phase 3



The clinical directorate is responsible for the analysis of results, with the support of the DRF/DPVDTN/PEPAC coalition, and implement actions to improve all aspects of performance

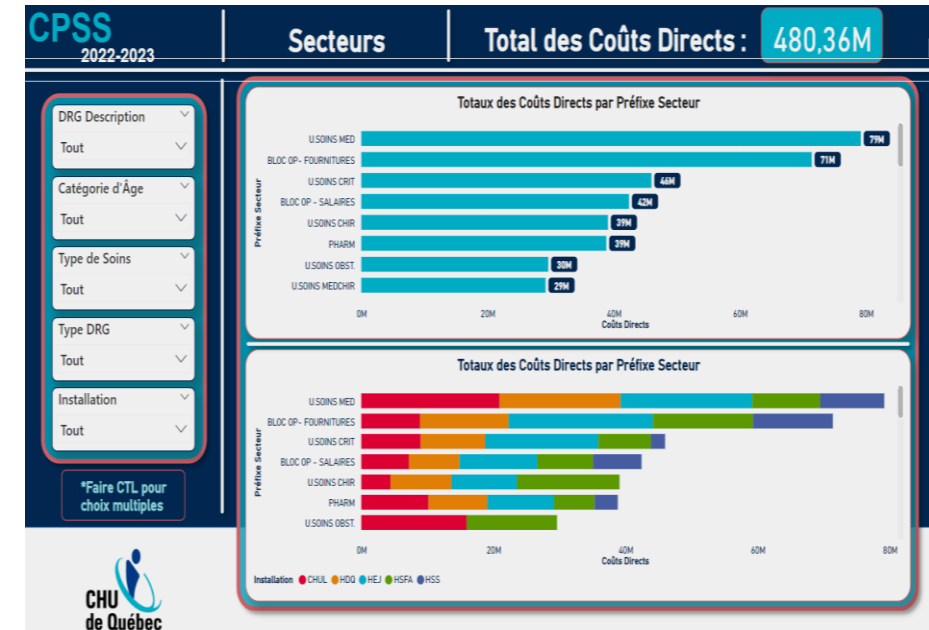
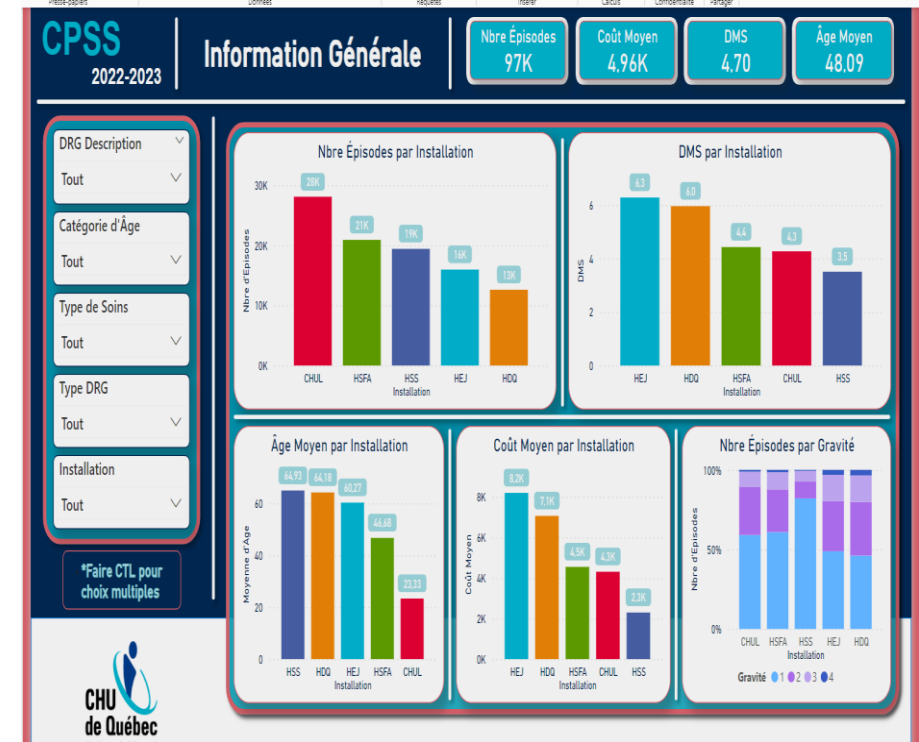
Impact of the work (obstetrics):

- Funding gap reduction – approx. 1 M \$ (35 %)
- Methodology refinements: Improved integration of high-risk pregnancy related variables
- Increased confidence in the costing data, move towards practice change

Projects with clinicians : phase 4

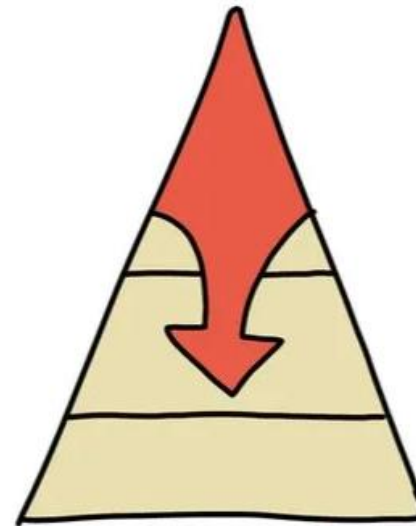


- **Reconciliation of CPSS data with actual expenditures**
 - Previous and current years
- **Funding simulation**
 - Expense vs. Income Analysis
- **Dashboard Development**
 - 360° DPF/SSAV Performance Monitoring
 - Activity-based budget

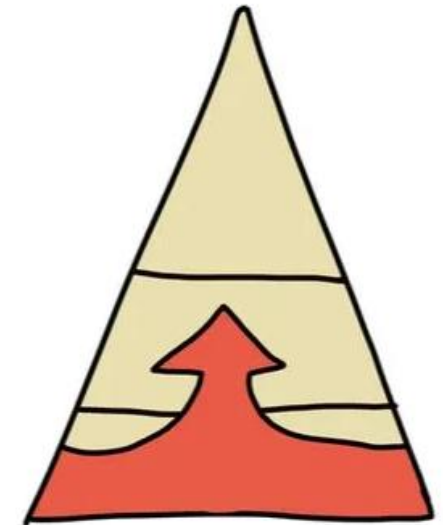


Projects with clinicians – lessons learned

- Top-down projects included limited focus on value and clinical indicators (2025)
- Refocus in strategic plan on value based care
- Develop a bi-directional value based care implementation strategy (top-down roadmap (training) and bottom up support for vbh initiatives)
- Implement a value management office



top-down



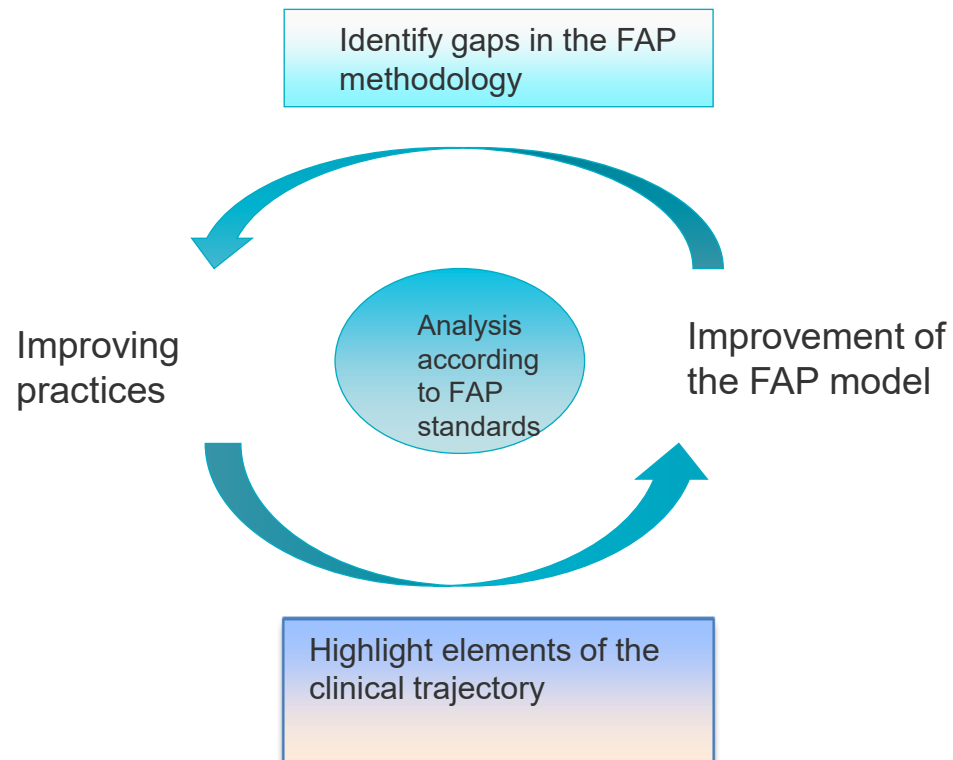
bottom-up

Coherence of FAP projects- analysis and improvement objectives

Within the FAP governance and the projects, we are working to reinforce the convergence between the FAP analyses and the other projects to improve surgical trajectories:

- Use rates as MSSS standards
- Measuring the impacts of projects on the FAP

The analytical prism offered by FAP can be an input for improvement projects which can feed into the overarching FAP work and objectives.





Contribute and influence provincial level

- Collaboration with the MSSS-Health agency in :
 - Prov. Working Group – Ultra-Specialized Services (transplantation, severely burned patients)
 - Analytical Unit – co-construction approach through the RSSS to improve imaging and endoscopy funding model
- Leadership in the development of tools & support for other health establishments in the network with : Simulation tools, collaborative FAP project framework

This work has been conducted in collaboration with clinical stakeholders, and we see these as contributions to the sensibilization, education and mobilization of clinicians within the organization.

Conclusion

The cost per care and service pathway (CPSS) alone has a limited potential for mobilization with clinicians. It greatly benefits from being located in the concept of *Value-based healthcare* (VBH)

The mobilization strategy must be scalable and benefits from being deployed in a logic of co-construction with clinicians and with **a strong posture of humility**.

Value-based healthcare (VBH) must be seen as a strategic tool for clinical-administrative reflection promoting decision-making, continuous improvement and innovation, both at the level of care trajectories, organizations and health systems.

Sources (documents and pictures):

D3 : https://qualificationsquebec.com/wp-content/themes/q2/assets/images/carte_canada.svg

[https://publications.msss.gouv.qc.ca/msss/fichiers/statistiques/cartes/Carte RSS du Quebec 2024.png](https://publications.msss.gouv.qc.ca/msss/fichiers/statistiques/cartes/Carte_RSS_du_Quebec_2024.png)

<https://msss.gouv.qc.ca/professionnels/statistiques-donnees-services-sante-services-sociaux/>

D9 : https://www.mcgill.ca/socialwork/files/socialwork/health_report_-_wendy_thomson.pdf

[Plan to implement the necessary changes in health | Government of Quebec](#)

[Transformation Plan - Together for Sustainable Transformation and Results that Matter - Transition Committee - January 2025 - Publications of the Ministère de la Santé et des Services sociaux](#)

D222 : https://live.staticflickr.com/2882/8770189304_60b0351a9a_b.jpg

D 27 : <https://www.freshbooks.com/wp-content/uploads/2021/10/bottom-up-vs-top-down.jpg>

