

How the University of Montreal Hospital Center (CHUM) Transformed Scheduling and Improved Staff Satisfaction



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Executive Summary

The University of Montreal Hospital Center (CHUM) implemented Petal's AI-driven Workforce Management solution to achieve improvements in operational efficiency, schedule fairness, staff satisfaction, and overall workforce flexibility. This ensures better alignment between departmental needs and health professionals' work-life balance.

Here are high-level takeaways from one CHUM department's experience with Petal:

- **Up to 98% reduction in schedule creation** time through AI-enabled automation.
- **92% of staff satisfaction** reached across the department.
- **1.44 cost-benefit ratio** by Year 4, proving long-term economic value.

In recent years, AI-powered workforce scheduling solutions, such as the Petal Healthcare Workforce Management solution, have emerged as effective alternatives to manual scheduling. These digital tools significantly reduce administrative burden, ensure equitable workload distribution, and empower healthcare professionals with flexible scheduling. By optimizing workforce management, AI-driven solutions have the potential to enhance job satisfaction, improve retention, and ultimately contribute to better patient care within the Canadian healthcare system.

To glean the insights explored in this paper, Petal enlisted economists from the consulting firm Analysis Group to perform a rigorous study of CHUM's Petal-derived effects. The analysts maintained complete independence from Petal throughout this process.



Ready to dive deeper? [Download the full economic report](#) to explore the detailed findings and learn how Petal can drive measurable results for your organization.



Solving Shared Problems Through Innovation

It's time to harness Canada's healthcare potential. For over 15 years, Petal Health has enhanced patient access to care by optimizing the management of health ecosystems, streamlining processes, and centralizing data. The next 15 years will demand more of the same: our country's health system challenges necessitate even greater innovative solutions. We can solve them together.

As a trusted Canadian healthcare technology and consulting partner, Petal empowers health ecosystems with AI-enabled automation, interoperability, and advanced analytics, delivering data-driven insights at scale to improve patient outcomes and financial performance. To date, Petal has helped 1,800+ departments create fairer, more consistent schedules—reducing administrative time, such as scheduling management, while enhancing work-life balance for the workforce.

Multiple healthcare delivery organizations and networks across Canada use the Petal Healthcare Workforce Management solution to manage healthcare professionals, such as physicians and pharmacists. This technology provides real-time insights into the schedules of one or multiple hospital departments and services, optimizing shift allocation, improving secure communication, ensuring compliance with labour agreements, and enhancing workforce productivity—all while supporting high-quality patient care delivery.

The Petal solution is designed with high-availability cloud architecture, maintaining 99.5% uptime and incorporating security measures compliant with Act 25, GDPR, and other established data regulations.

CHUM's Discovered Advantages

A major challenge currently facing Canadian healthcare organizations is maintaining the quality of care in the context of staff shortages. Digital transformation in workforce management improves resource efficiency and boosts staff engagement, enhancing operational efficiency and overall organizational performance.

The advantages CHUM gained through Petal impact patients and staff at all levels. These advantages are organized into three sections: scheduling time, staff satisfaction, and workforce flexibility.

01

Saved Scheduling Time

Scheduling plays a critical role in workplace satisfaction and employee retention. However, as health leaders know, ensuring fairness while accommodating individual preferences is a highly complex and time-intensive task.

In overcoming this challenge, CHUM reduced the time spent on schedule creation by up to 98% using Petal's AI-enabled scheduling automation solution.

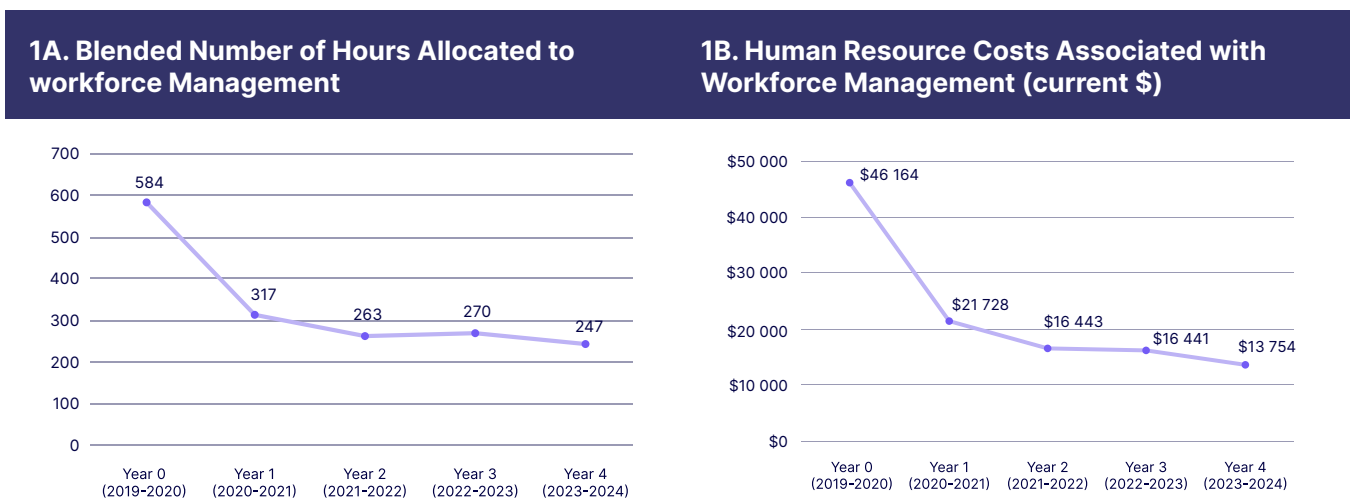
This hospital network generated fair schedules based on department-specific rules without relying on manual, generic software like Microsoft Excel. In addition, Petal's third-party integration allowed CHUM to seamlessly integrate data from existing scheduling tools to maintain consistency and reduce administrative burden. **Table 1** highlights how much time management was saved using Petal's solution.

Table 1. Hours allocated to workforce management

	Manual Scheduling	PETAL's Solution			
	Year 0 (2019-2020)	Year 1 (2020-2021)	Year 2 (2021-2022)	Year 3 (2022-2023)	Year 4 (2023-2024)
Schedule Creation					
Chief of Department	234	42	8	8	4
Deputy Chief of Department	118.5	104	85	86	75
Clinical Coordinator	24	12	4	2	2
Payroll Validation Based on the Schedule					
Chief of the Department	48	24	24	20	0
Administrative Assistant	150	118	118	120	125

Figure 1 shows the reduction in hours spent on scheduling and the dollar amounts required to manage that scheduling over four years.

Figure 1. Resources allocated for the creation of the schedules



02

Increased Staff Satisfaction

A more satisfied staff leads to better team morale and, in turn, more uplifting environments for patients and their families.

For CHUM, implementing the Petal solution increased staff satisfaction, with 92% of users reporting satisfaction.

Health professionals can swap shifts more efficiently, reducing administrative workload and improving work-life balance. Nearly all special schedule requests are approved, making it easier for staff to manage personal and professional commitments. For example, as health professionals became more familiar with the technological solution, they increased their time-off requests, as shown in **Table 2**.

Did you know the Petal solution considers individual constraints, group rules, and fairness objectives?

Table 2. Number of hours spent on time-off requests and shift exchanges by the department management

	Manual Scheduling	PETAL's Solution			
	Year 0 (2019-2020)	Year 1 (2020-2021)	Year 2 (2021-2022)	Year 3 (2022-2023)	Year 4 (2023-2024)
Time-off Request Management					
Deputy Chief of Department	9.5	14.5	17.7	27.0	35.8
Shift Exchanges Initiated by Health Professionals					
Administrative Assistant	0	2.4	5.9	7.2	5.5

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The Petal solution allowed us to create a flexible schedule adapted to the reality of each pharmacist while respecting the needs of the department. Petal has allowed us to establish a vision where the pharmacist is involved in the creation of their schedule in partnership with the managers, who are always attentive to their needs.

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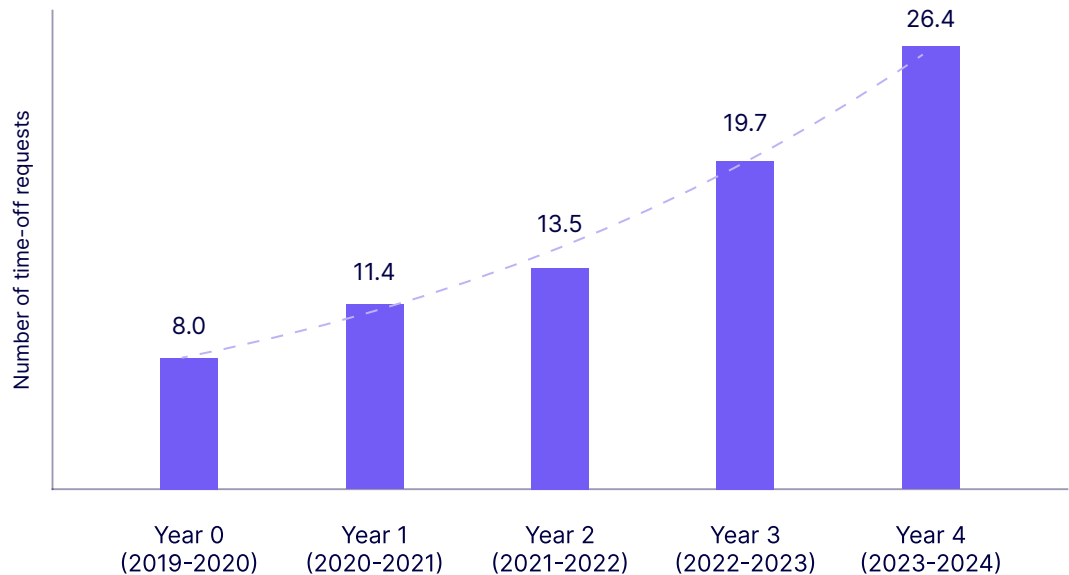
Jean-Philippe Adam
Deputy Chief of Department
University of Montreal Hospital Center (CHUM)

03

Enhanced Management Flexibility

Before CHUM's implementation, time-off requests were labour-intensive, leading the department to impose strict limitations. Health professionals were restricted to a maximum of one time-off request per month. Now, time-off requests are managed automatically, significantly reducing administrative burden. **Figure 2** displays the average number of requests per health professional increasing from Year 1 to Year 4. This illustrates Petal's greater scheduling flexibility.

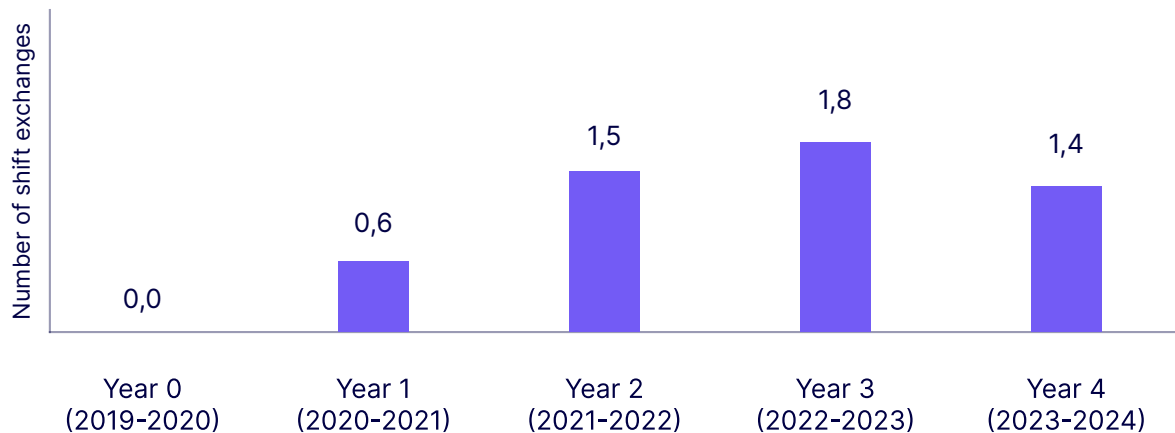
Figure 2. Number of time-off requests per health professional per year



Further, CHUM now accesses previously unobtainable shift exchange autonomy.

Managers plan schedules further in advance and for extended periods, such as six months. Shift adjustments remain necessary to accommodate unforeseen circumstances, such as sick leave, so Petal allows healthcare professionals to exchange shifts autonomously. As shown in **Figure 3**, health professionals have initiated an average of 1.5 shift exchanges per year over the past three years, an entirely new practice enabled by Petal.

Figure 3. Number of shift exchanges per year initiated by health professionals



Gained Economic Value

The Petal solution significantly reduced CHUM's time spent on schedule creation and pay validation, leading to cost savings and efficiency improvements. As early as the second year of implementation, the savings generated through reduced scheduling time exceeded the solution's subscription cost. By Year 4, the benefits were 44% higher than the cost, indicating substantial long-term efficiency gains. Beyond measurable cost savings, the solution provided intangible benefits, including improved patient care, increased staff satisfaction, and optimized organization efficiency. As **Table 3** shows below, the analysis demonstrated a progressive direct economic benefit associated with the solution over the four years after the solution's implementation.

Table 3. Direct Benefits of Petal's Solution

	Manual Scheduling	PETAL's Solution			
	Year 0 (2019-2020)	Year 1 (2020-2021)	Year 2 (2021-2022)	Year 3 (2022-2023)	Year 4 (2023-2024)
Direct Human Resources Costs					
Without the Petal Solution ¹	\$46,164	\$51,284	\$54,438	\$58,905	\$62,724
With the Petal Solution ²		\$21,728	\$16,443	\$16,441	\$13,754
Direct Benefits		\$29,556	\$37,995	\$42,464	\$48,970

Notes: ¹ Assuming the volume of hours in 2019-2020, the hourly rates of the current year, adjusting for department size in the current year and the increase in time-off requests and shift exchanges initiated by health professionals.

² Using the volume of hours and the hourly rates of the current year.

Cost-Benefit Analysis

Taking into account the economic benefits (i.e., reduction in human resource costs) and the subscription cost of the Petal solution, the net cost-benefit increased from -\$2,574 in Year 1 to \$14,845 in Year 4, highlighting the growing economic advantage of using the solution over the years. The cost-benefit ratio exceeded 1.0 from Year 2 onward, reaching 1.44 in Year 4, while the ROI improved from -8.0% in Year 1 to 18.9% in Year 4, as seen in **Table 4** below.

Table 4. Cost-Benefit Analysis

	PETAL's Solution			
	Year 1 (2020-2021)	Year 2 (2021-2022)	Year 3 (2022-2023)	Year 4 (2023-2024)
Direct Benefits	\$29,556	\$37,995	\$42,464	\$48,970
Direct Costs	\$32,130	\$33,012	\$34,440	\$34,125
Net Cost-Benefit¹	-\$2,574	\$4,983	\$8,024	\$14,845
Cost-Benefit Ratio²	0.92	1.15	1.23	1.44
ROI³	-8.0%	3.7%	10.5%	18.9%

Notes: ¹ Net cost-benefit is measured as the benefits minus the costs.

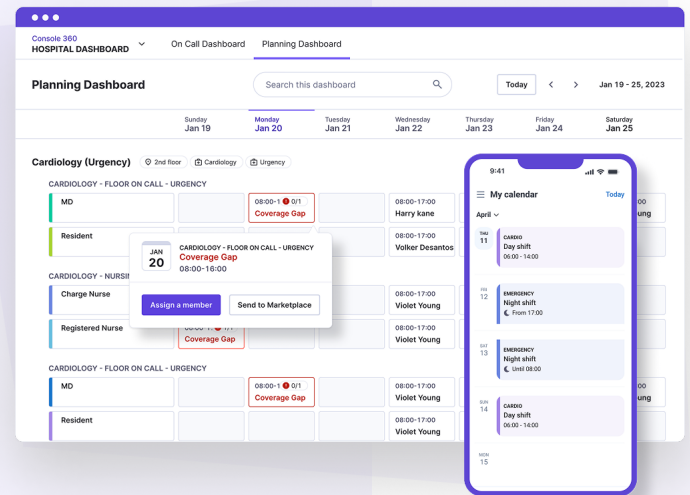
² The cost-benefit ratio is the net cost-benefit divided by the cost.

³ The ROI is measured as the sum of the benefits since the solution implementation divided by the total cost since the implementation

How Petal Upgrades Scheduling at Scale

Petal's Healthcare Workforce Management solution is available in both standard and advanced versions:

- The standard version enables users to generate and publish schedules via web and mobile applications.
- The advanced version includes AI-enabled automation algorithms designed to simplify scheduling and allow for most shift allocations to be generated automatically.



Beyond scheduling, both solution versions proactively anticipate and address staffing shortages by providing real-time workforce coverage insights. The solution includes features such as individual user profiles with qualifications, areas of expertise, seniority levels, and preferred work locations. It also saves individual scheduling and communication preferences, making shift assignments more flexible. When schedule changes are requested, the solution can suggest qualified replacements, facilitating quick adjustments while maintaining a record of modifications and approvals for transparency.

Furthermore, Petal provides a secure end-to-end encrypted communication tool, allowing healthcare professionals to exchange information efficiently. Messages can be sent to individuals or groups, and shared directories support team collaboration. While communication logs are maintained, message content is not stored to protect privacy.

Schedules are automatically distributed to the relevant personnel once approved.

CHUM used this service to replace unsecured apps with a secure, real-time messaging system for safe and efficient collaboration.

Did you know Petal's real-time emergency activation ensures critical notifications reach the right teams based on priority and preferred channels?

In turn, CHUM gained faster and more precise coordination among department staff and other healthcare providers. This ensured specialists were available when needed, reducing gaps in critical expertise and minimizing scheduling errors that could negatively impact patient wellbeing. Through improved communication and coordination, hospital staff could offer their patients greater safety and quality of care.

Why It's Time to Leave Manual Scheduling Behind

Health authorities, hospitals, and clinic networks adopt Petal's digital solution to reduce redundant administrative tasks and improve processes. This can alleviate staff stress and offer greater schedule flexibility.

Here's what to expect:

1. Optimized shift assignments to align with health professionals' preferences and availability.
2. Automated schedule creation to enhance staff efficiency, allowing healthcare professionals to focus on patients.
3. AI-backed capacity to navigate unexpected absences, seasonal fluctuations, or healthcare crises.

Petal is ready to optimize workflows for patients, staff, and revenue growth. Petal's cloud-based approach enables multiple users to view, update, and publish schedules simultaneously, reducing reliance on a single computer and minimizing the risk of access disruptions due to technical failures. The system is designed with high-availability cloud architecture, maintaining 99.5% uptime and incorporating security measures compliant with Act 25, GDPR, and other healthcare data regulations.

Additional Resources

- [Explore Workforce Management](#) and prepare your operation for the future.
- [Learn how](#) Petal saved the Quebec government \$73.8 dollars in Annual Financial Benefits from Reducing Emergency Department Visits.
- [Follow us](#) on LinkedIn for the latest in health tech.

