Performance & Analytics Solutions

A **Logibec** initiative

AGENDA

Continuum Health – Your data at your service

1 **ABOUT US**

2 **OUR PRODUCTS**

3 **SUMMARY**

4 **USE CASES / ROI**

"DATA SHOWS 87% OF ORGANIZATIONS HAVE LOW BI AND ANALYTICS MATURITY"

GARTNER, 2018

Our commitment

We create integrated analytics solutions that can support a broad range of uses. To improve their analytics maturity, data and analytics leaders should consider integrated analytics platforms that extend their current infrastructure to include modern analytics technologies.

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1

ABOUT US

Next Generation ***Performance Analytics Solutions***

Proud member of the Canadian Centre for Innovation

Logibec

Largest Healthcare IT Company Based in Canada

Since 1982, Logibec has emerged as a clear leader in the Canadian Healthcare IT market by providing administrative, clinical, and performance software solutions to healthcare facilities across Canada.

36
years of Healthcare IT experience

5
offices across Canada, HQ in Montreal

430+
employees including
190+
in development

340,000
healthcare employees in Canada supported by Logibec systems

220+
clients within 7 provinces across Canada

215
R&D experts at Logibec

Who are we?

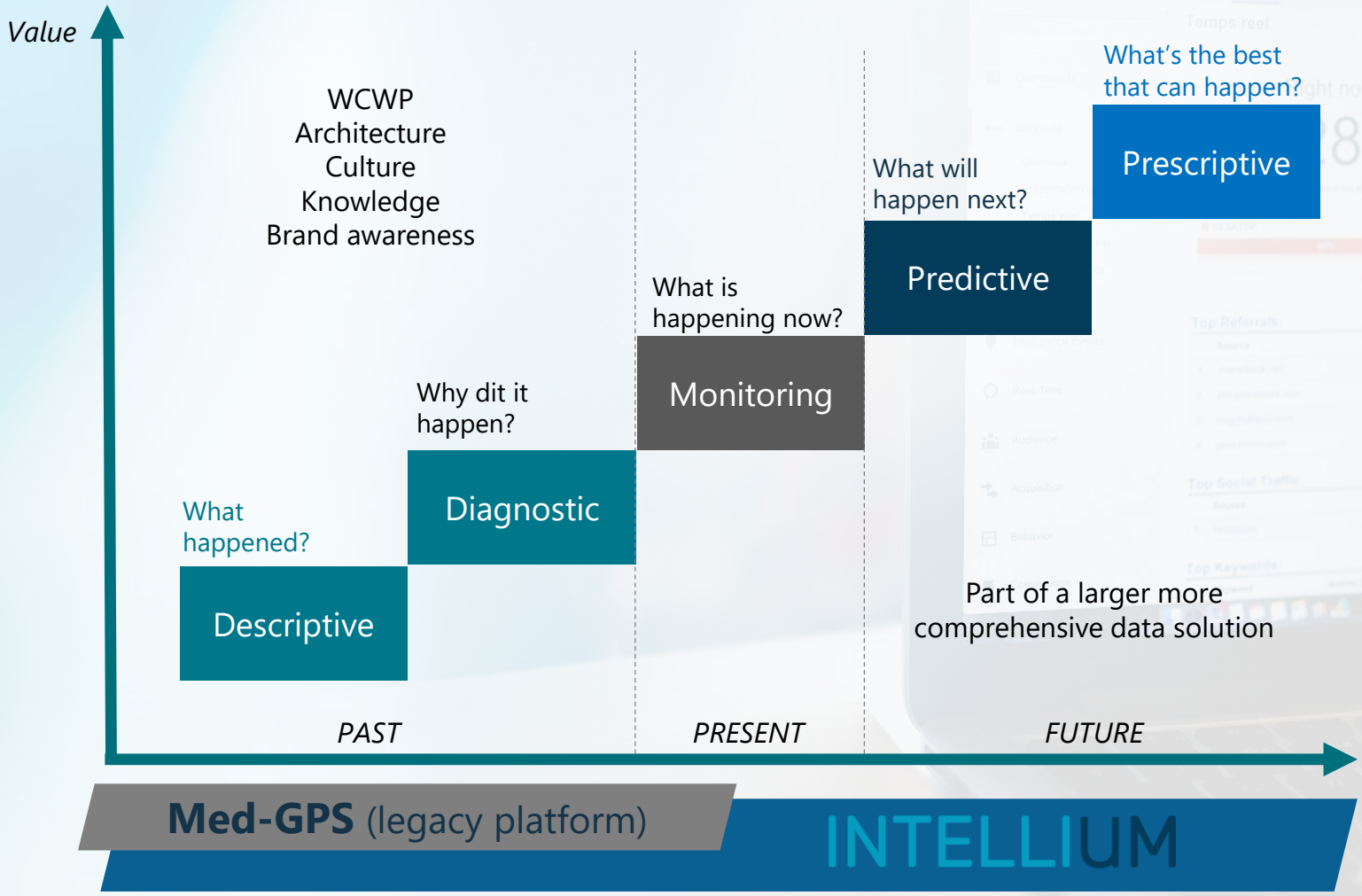
Continuum Health is a leader in advanced analytics, data, dashboards and **performance solutions for healthcare facilities.**

At Continuum Health we want to create **innovative IT solutions**, bringing together brilliant, inspired and creative people.

We commit ourselves everyday towards one purpose, which is **to improve the quality of life of patients and healthcare professionals** alike.

THE SPECTRUM OF ANALYTICS CAPABILITIES AND MARKET

Analytics capabilities are evolving quickly in the market, from descriptive to a future state in the areas of predictive and later prescriptive. As complexity increases, greater client value is derived from powerful insights.



CONTINUUM

Data at your service

SANTÉ·HEALTH

Accessibility

Data at your service

Information at your fingertips

Achieve

Solutions Embedded Support

Understand your data

Autonomy

Power BI

Free to explore and exploit your data

Direct Access Data Warehouse

2 OUR SOLUTIONS

Continuum Core & Intellium – Leveraging ***data to your advantage***

INTELLIUM

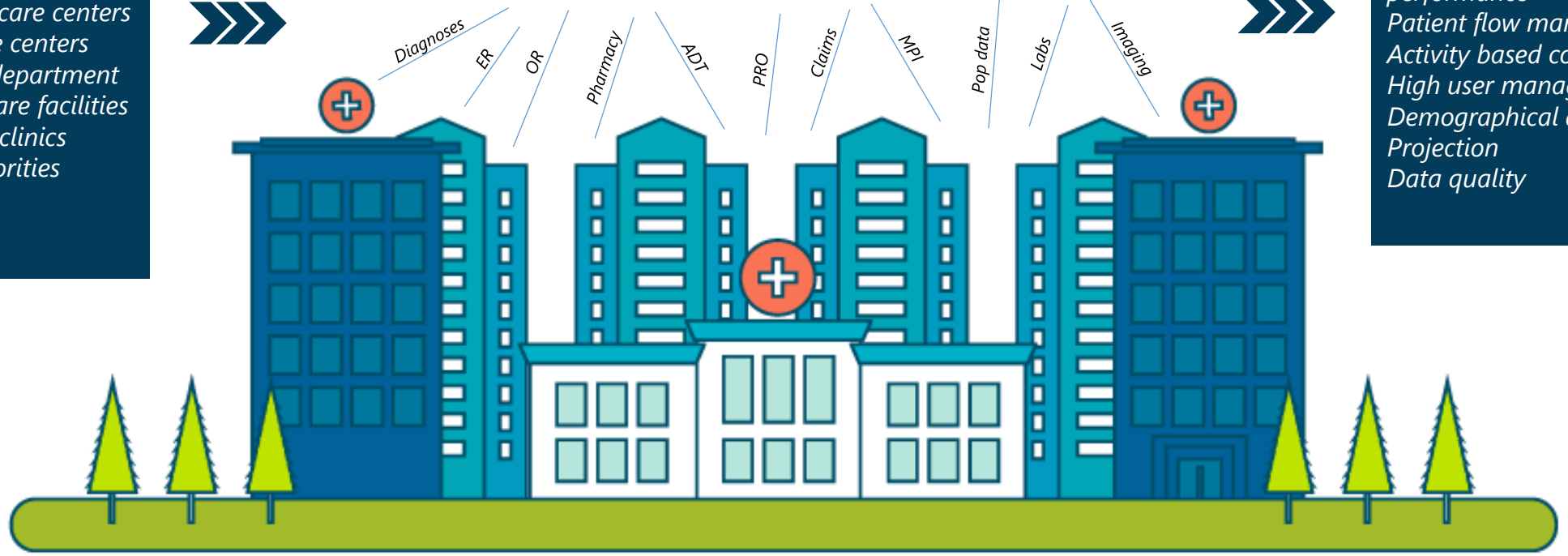
Microsoft Azure

Next generation performance analytics solution

CONTINUUMCORE

Comprehensive & Patient-centric data store

Acute care hospitals
Community care centers
Primary care centers
Emergency department
Long-term care facilities
Ambulatory clinics
Health authorities



Realtime monitoring
Trajectory of care & patient cohortes
Clinical and financial performance
Patient flow management
Activity based costing
High user management
Demographical analisys & Projection
Data quality

Clients, Data Sources & Solutions

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CONTINUUMCORE

Walking through patient's trajectory

Operating room

Bed Management & ADT

Laboratory

Pharmacy

Imaging services

Infection

Emergency Department

Purchase, Stores and Inventory Management

Collections and Refunds; Receivable Accounts

Billing & Pricing Management

Incident/Accident

Financial and Accounting System

Ambulatory Clinics

Readaptation Services

Master Patient Index

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INTELLIUM FEATURES

Clinical performance

Real-time data
On demand

Mobility

Control room

Clinical relevance

Predictive

CONTINUUMCORE

Patient's trajectory

Benchmarking

Cost per patient

Self-Serve BI
(Dashboarding / Reporting)

Patient's trajectory

PHM

Data quality

Community of
best practice

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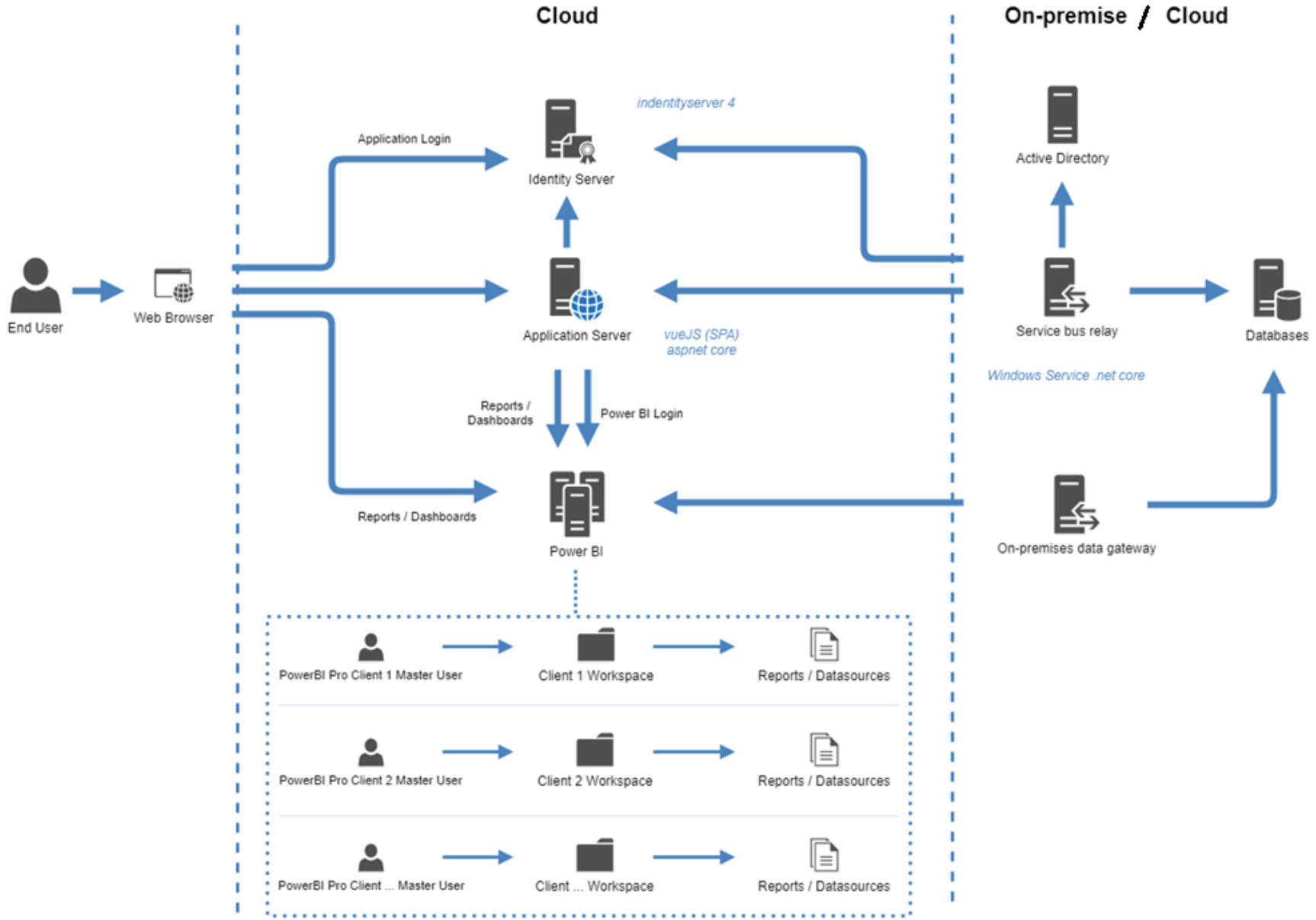
INTELLIUM ARCHITECTURE



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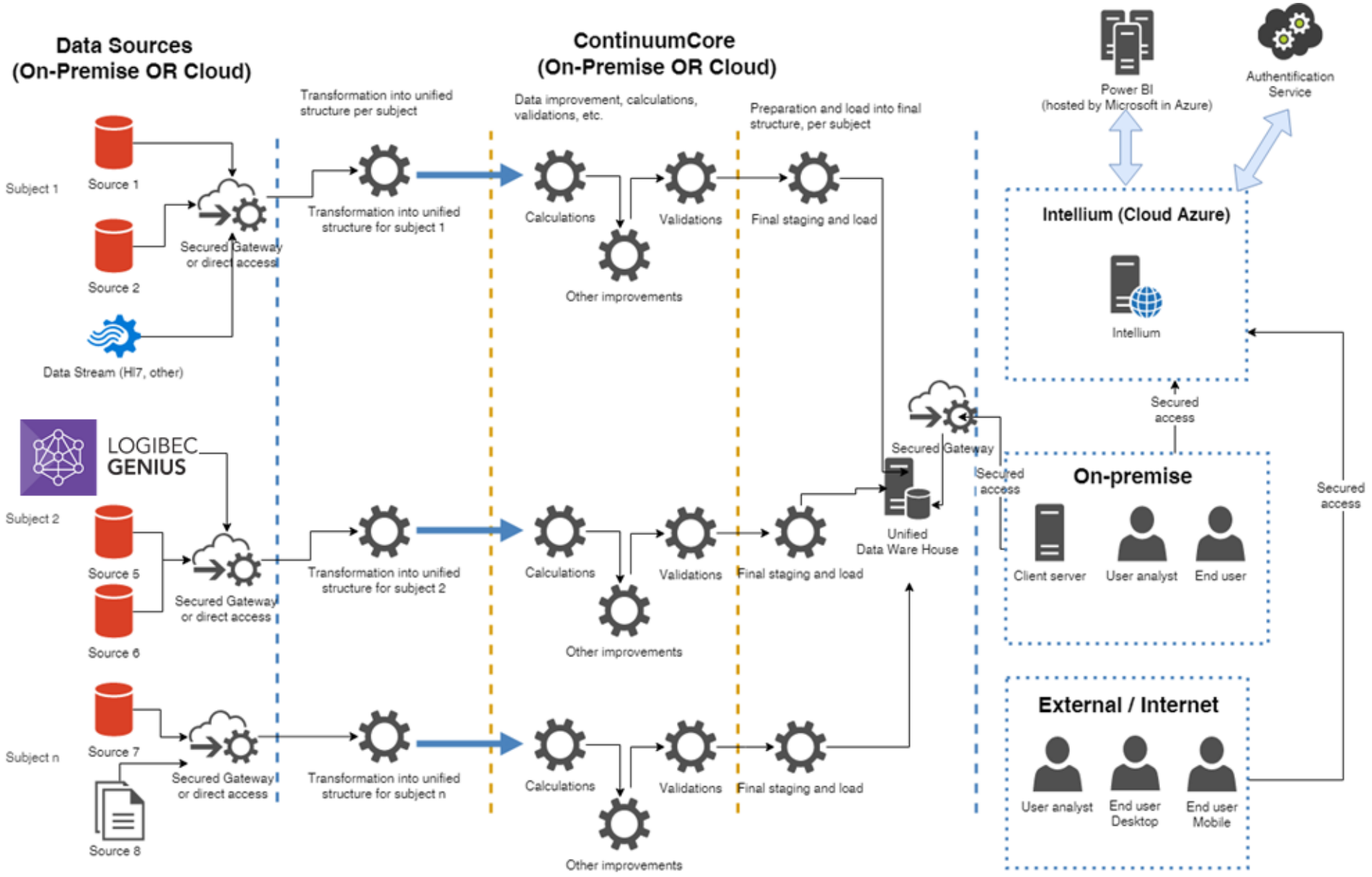
SOLUTION ACHITECTURE



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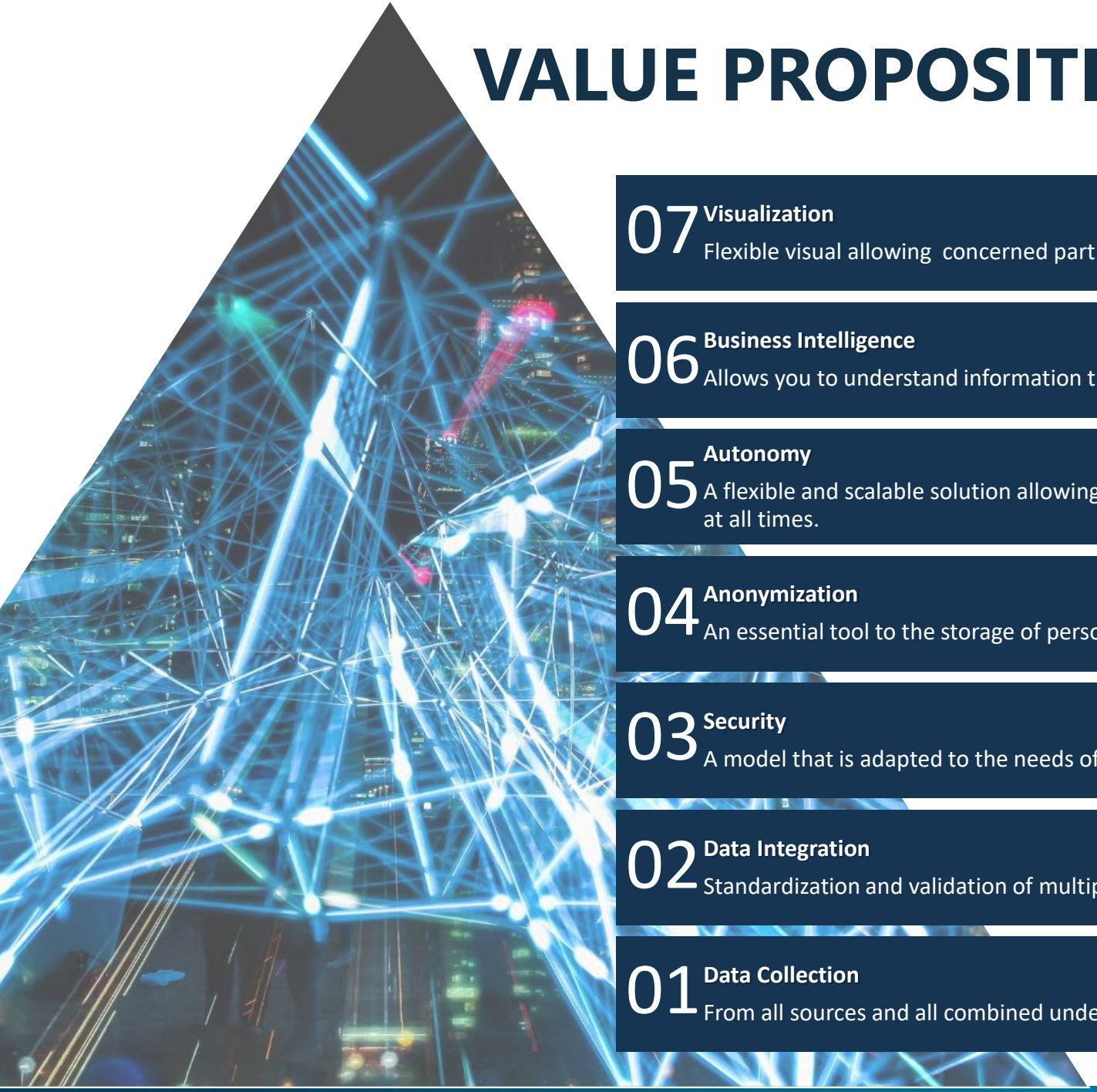
3 SUMMARY

*With us, your data becomes **a strategic advantage***

VALUE PROPOSITION



07 Visualization
Flexible visual allowing concerned parties to see only the relevant information.

06 Business Intelligence
Allows you to understand information that is relevant to you.

05 Autonomy
A flexible and scalable solution allowing you to control the way information is presented, at all times.

04 Anonymization
An essential tool to the storage of personal data.

03 Security
A model that is adapted to the needs of the healthcare industry.

02 Data Integration
Standardization and validation of multiple sources data.

01 Data Collection
From all sources and all combined under one same roof.

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INTELLIUM

A **turnkey** cloud solution

Flexibility
No need for on-site infrastructure.

Integrity
Connects to any data sources & centralizes information under one roof.

Tools
Includes unlimited use of Power BI.

Evolution
Platform in constant iterative evolution & we provide possibility of partnerships to grow with your needs.

Mobility
Allows accessibility from anywhere, at any time.

Adaptedness
Comprehensive and customizable platform adapted to the realities of the health network.

Peace of mind
Security built on healthcare system realities.

Support
Real-time support through live chat.

CONTINUUMCORE

A **flexible** datawarehouse with **modern data**

Accurate
Real-time analytics leveraging the entire continuum of care.

100+ of connectors
More than 100 developed and readily available connectors.

Choices
Can be cloud or on-premise.

Direct
Direct access to the data warehouse.

User-friendly
Agnostic data models that are easy to consult via the same schema regardless of the source.

Proactive
Embedded data quality validations (700+) & proactive alert system for potential problematics.

Standardized
Provides users with access to standardized data for better decision making.

Simplified Information
Optimal understanding of information management through comprehensive, documentated and denormalized views to circulate in the data universe and make it easy for non-technical users.

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CUSTOMER INTEGRATED DEVELOPMENT PROGRAM (CIDP)

Support Development of **Enhanced Performance** and **Analytics Platform**

PHASE 1 – REQUIREMENTS GATHERING

Logibec Product Strategy and Development teams will meet with CIDP member organizations to define the functional requirements of the enhanced platform.

PHASE 2 – REQUIREMENTS ANALYSIS

Logibec Product Strategy, Business Analysts and Development will analyze the requirements and document the development plan.

PHASE 3 - PRODUCT ROADMAP AND IMPLEMENTATION PLAN

Logibec Product Strategy, Professional Services and Development will deliver a fully formed product roadmap and implementation plan that details delivery, effort and timelines – enabling you to make a go/no-go decision quickly. Our objective will be to rapidly deploy the existing performance and analytics platform and support a rapid deployment of enhanced and new features based on the requirements gathered in Phase 1.

PHASE 4 – DELIVERY OF FUNCTIONALITY TO THE CLIENT

During the development phase, the client will be directly involved in testing and ensuring the solution really answers his needs. Once the Q&A of the solution is complete, it will be deployed to the client.

4

USE CASES / ROI

Using ***Continuum Solutions***

Performance Management ROI

3 months

Review revenue-generating process
- Worker's compensation revenue optimization

6 months

Increase productivity
Cost savings from medical supply optimization

12 months

Review the clinical process and flow of high cost users
Review the clinical performance of outpatient activities
Review readmission rates and clinical variations

Cost Management & Revenue Optimization

$140M budget Health Organization, Quebec

$100K

Operational Management

$786M budget Health Region, Saguenay-Lac-Saint-Jean, Quebec

$830K

Population Health Management

$134M budget, Health Organization, Chatham-Kent Health Alliance, Ontario

$1M

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Case Study (3 Months): Workers Compensation Revenue Optimization

$140M budget healthcare organization, Quebec

Context

Properly coding payment liabilities is an important step in ensuring Hospitals are receiving the revenue they are entitled to for treating patients that have had at-work incidents.

Process

Using Continuum Solutions, a reconstruction of all episodes of care linked with a worker's incident ensured billing processes were done properly and fully. Information such as imaging, laboratory, etc. is easily retrieved for appropriate billing.

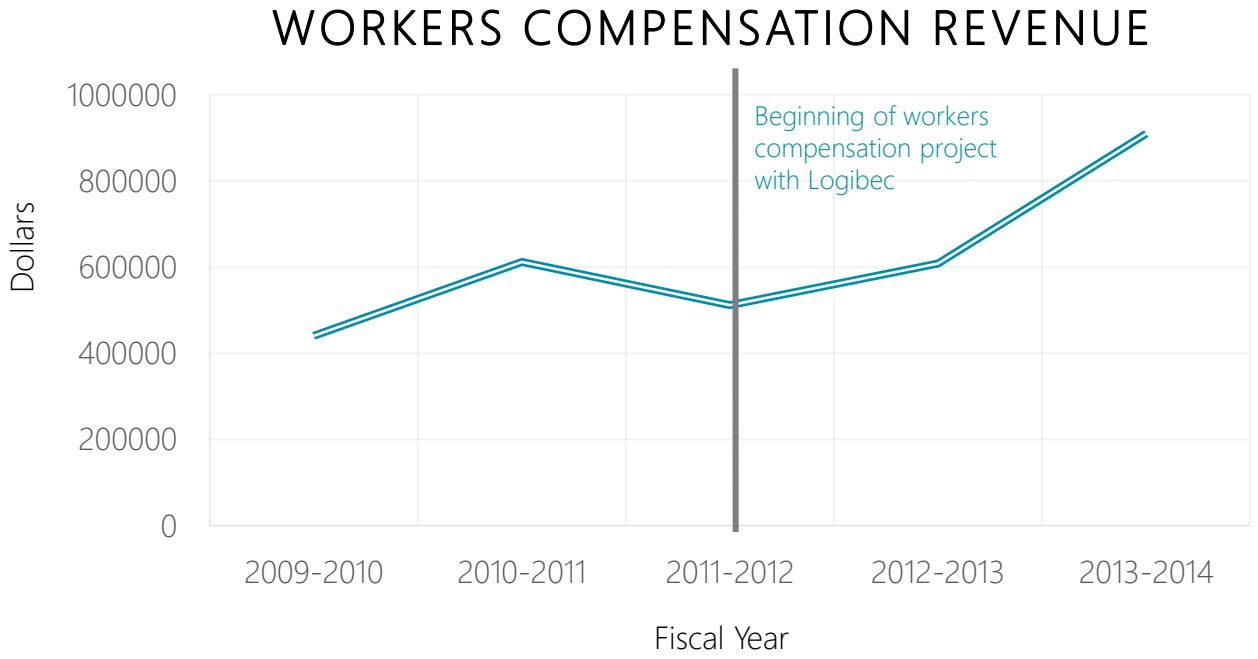
Results

Implementation of new processes regarding workers compensation revenue recognition was put in place in order to maximize future revenue of this nature.

Cost Management & Revenue Optimization

$100K

Additional revenue gained within the first 3 months of the project



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Case Study (6 Months): Optimization of Ophthalmology Services

$786M budget Health Region, Saguenay-Lac-Saint-Jean, Quebec / SACRÉ-COEUR Hospital

Context

The need for cataract operations significantly increased in the province of Quebec due to its aging population. The Saguenay region has seen a 38% increment of procedures in 2 years.

Strategy

Logibec was mandated to perform an extensive analysis of the current services in place, patients' journey and levels of clinical and financial performance for the cataract procedure with the use of Continuum solutions.

Results

Cost-saving and service improvements were delivered:

- Standardization of operating room resources and supplies used
- Centralization of cataract operations from 4 to 2 sites

Operational Management

$247K

Standardization
Estimated cost savings

$583K

Centralization
Estimated cost savings

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Case Study (12 Months): Implementation of a High User Management Model

$134M budget, Health Organization, Chatham-Kent Health Alliance, Ontario

Objectives

To improve care provided to the chronically ill, find a strategy to connect efficiently with primary care providers and ensure a strong linkage with the community.

Supported by the Continuum solutions, CKHA ROI

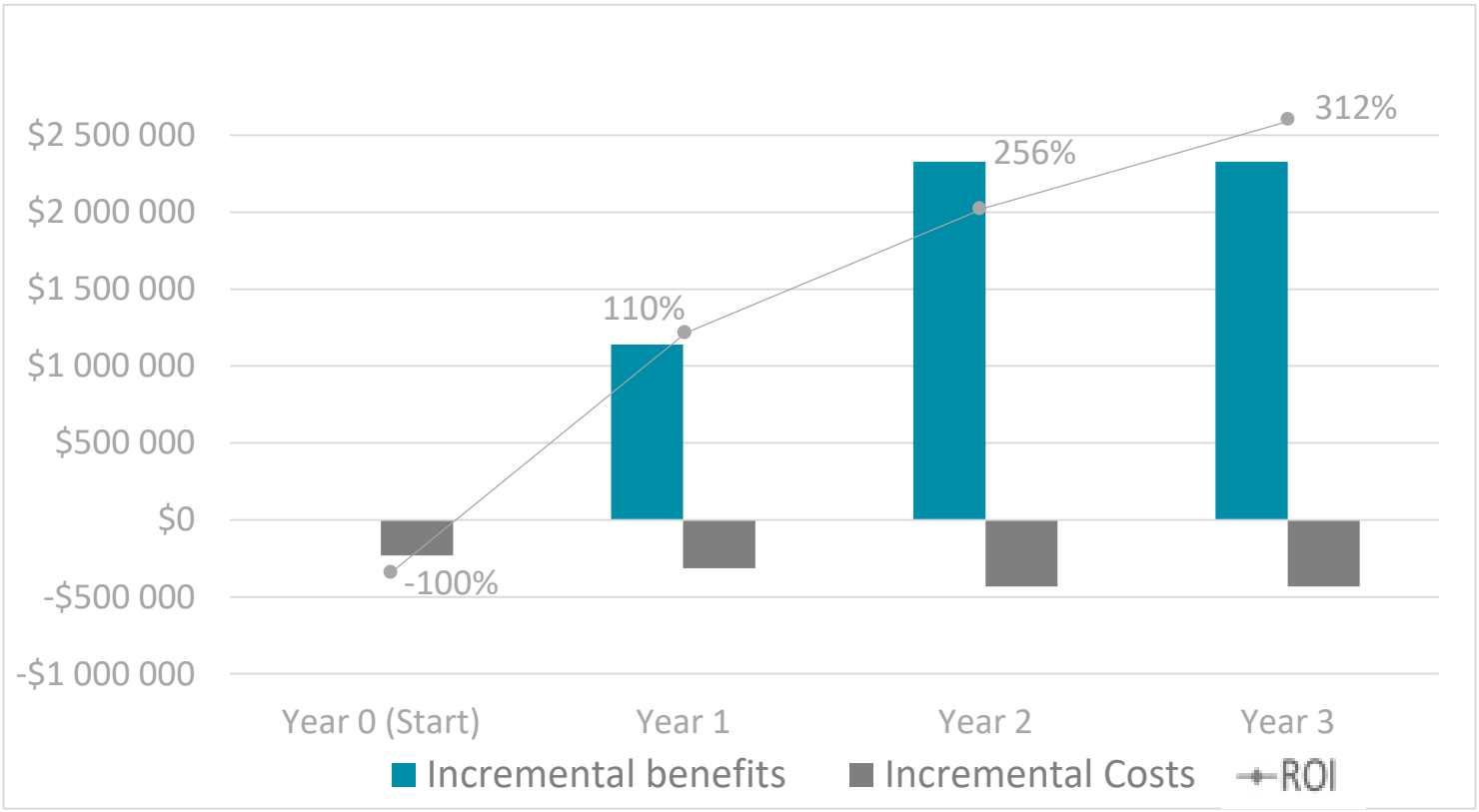
- Improved patient quality/end of life;
- Bed days decreased by 19%;
- ER visits decreased by 34%;
- Avoided costs of $1 M.

A positive ROI of **48%**, meaning that returns are superior to costs.

Population Health Management

Projected ROI of a High User Management Program

Scenario: 25% reduced inpatient days for HU with 3 or more admissions, and
50% reduced ED visits for HU with 3 or more admissions AND 5 or more ED visits



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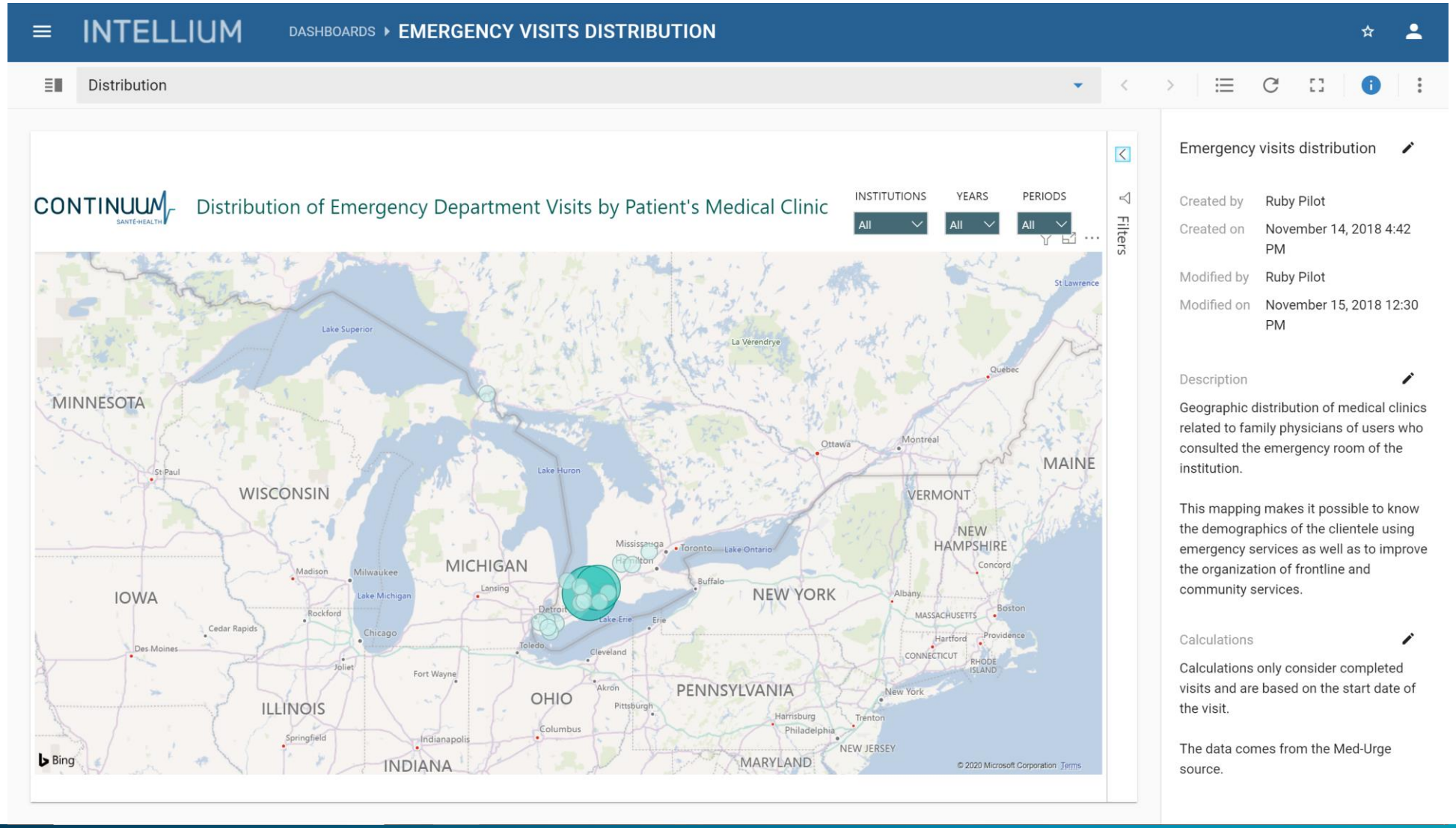
APPENDICES

Google Analytics
Home
Reporting
Customization
Admin
Temps reel
Dashboards
Shortcuts
Overview
Temps reel
Recherche sur site
Search keywords
Audience
Acquisition
Behavior
Conversions
Right now
28
active users on site
DESKTOP
Top Referrals:
Source
Top Social Traffic:
Source
Top Keywords
Keyword

Intellium – Emergency Visits Distribution

This dashboard shows the demographics of patients using emergency services, allowing the improvement of the organization of frontline and community services



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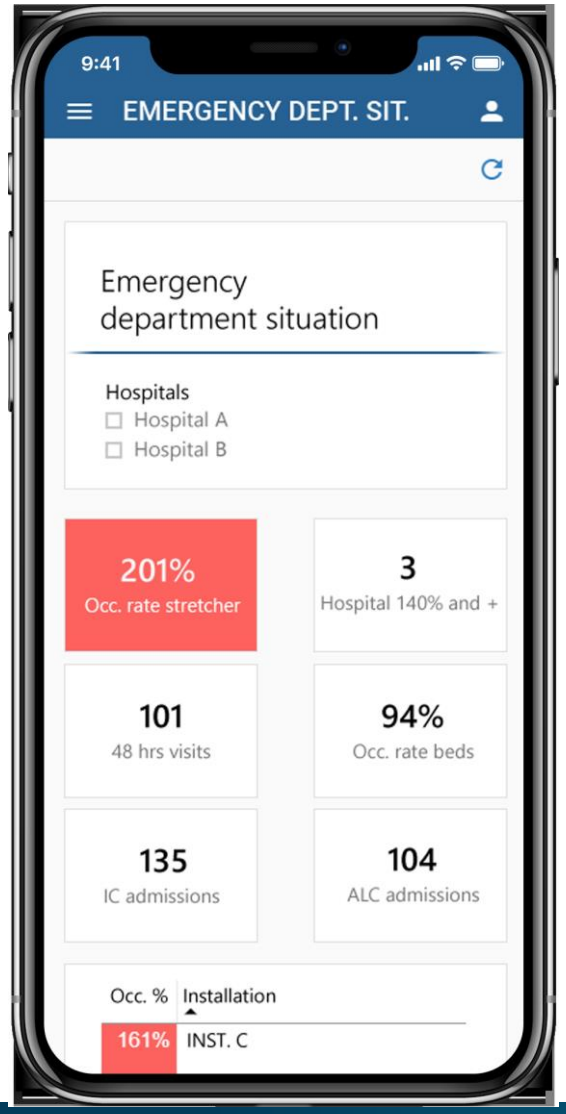
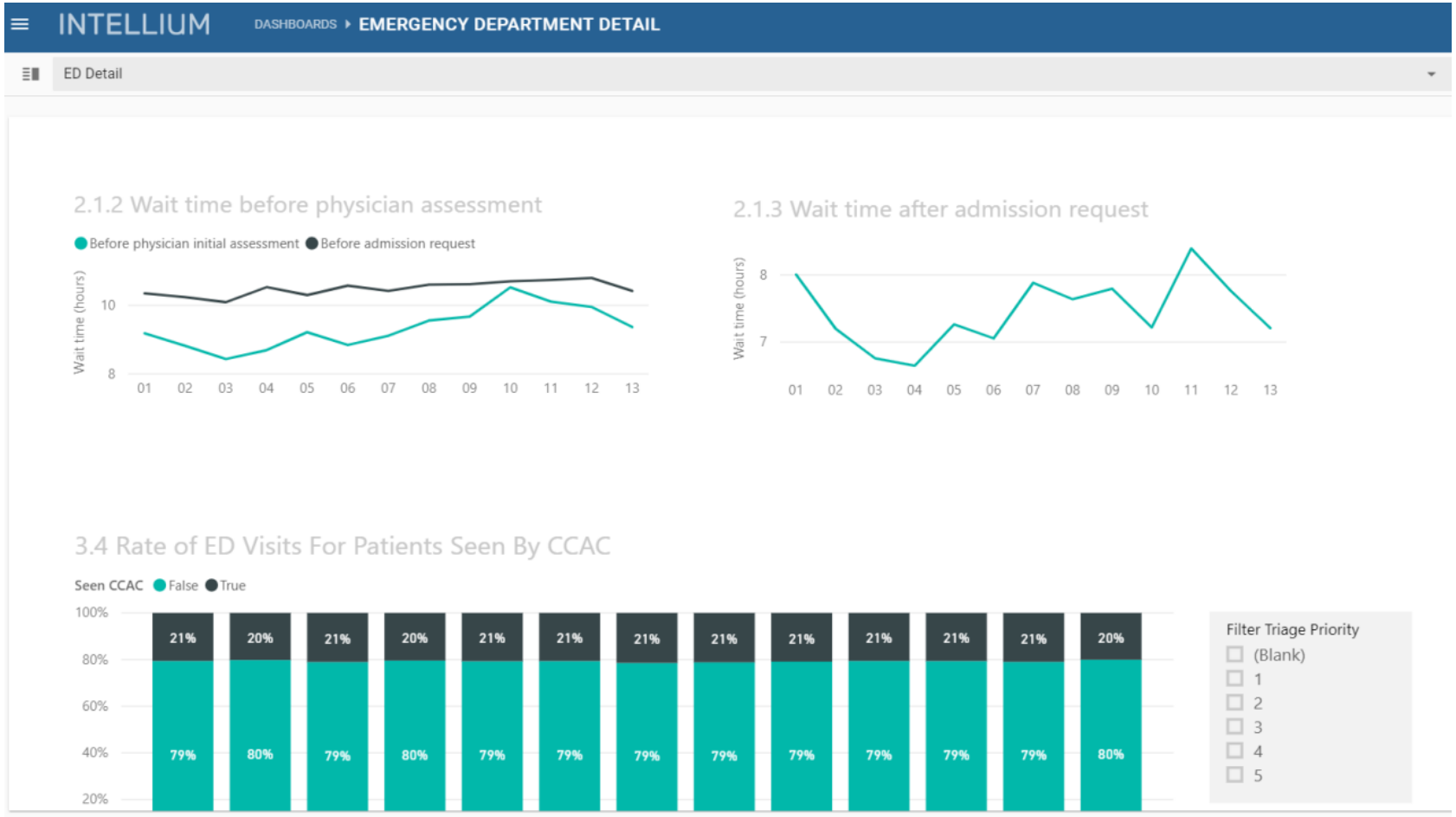
Intellium – Overview: real-time ED situation

Real-time information provided anytime and on any device to have a complete overview of the emergency department situation and make quick decisions





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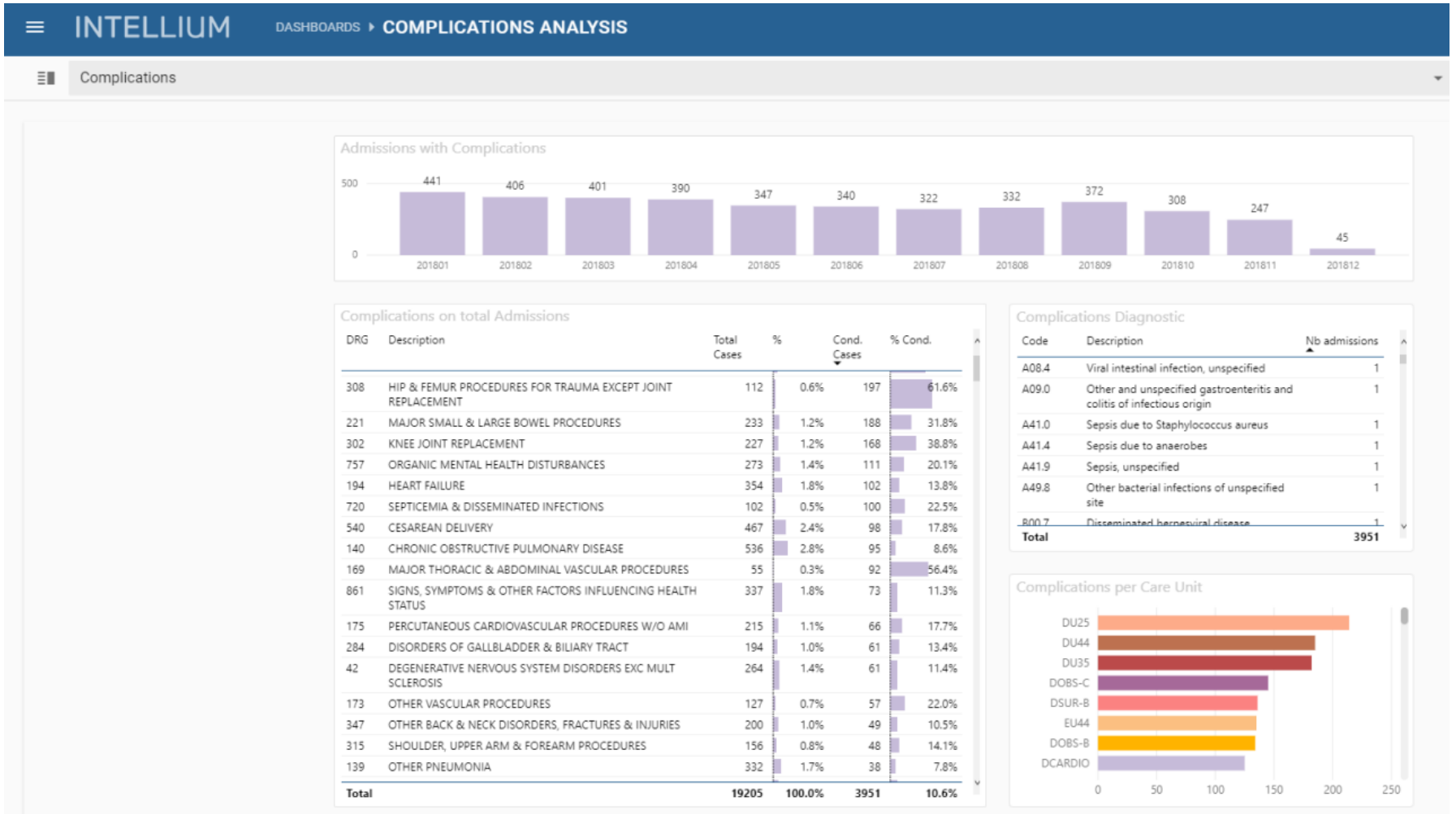
Intellium – Complications analysis

Indicators set analyzing postoperative infections, accident, and complications during the hospital stay. Because complications and infections can be very closely related to an increasing length of stay, this is a key indicator in care / process management. KPIs are built in to alert you when exceeding literature accepted standards.



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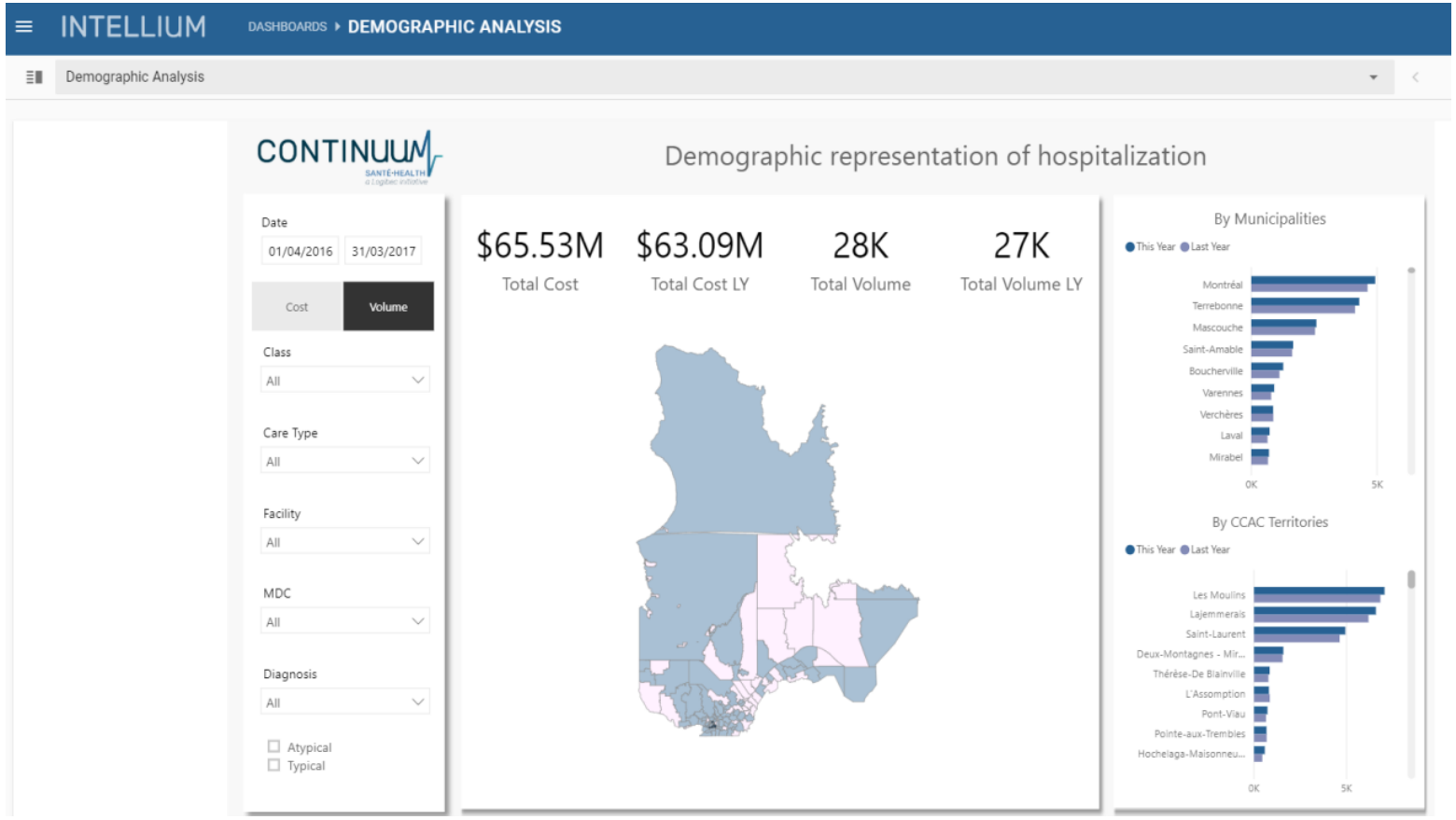
Intellium – Hospitalization by geographical origin; Demographic Analysis

These dashboards provide a geographic representation of hospitalization volumes. It makes it possible to target the geographical origin of patients according to several criteria such as age, diagnosis-related group, etc. It is also possible via this indicator to target the distribution of the customers as a function of the territory served by the hospital.



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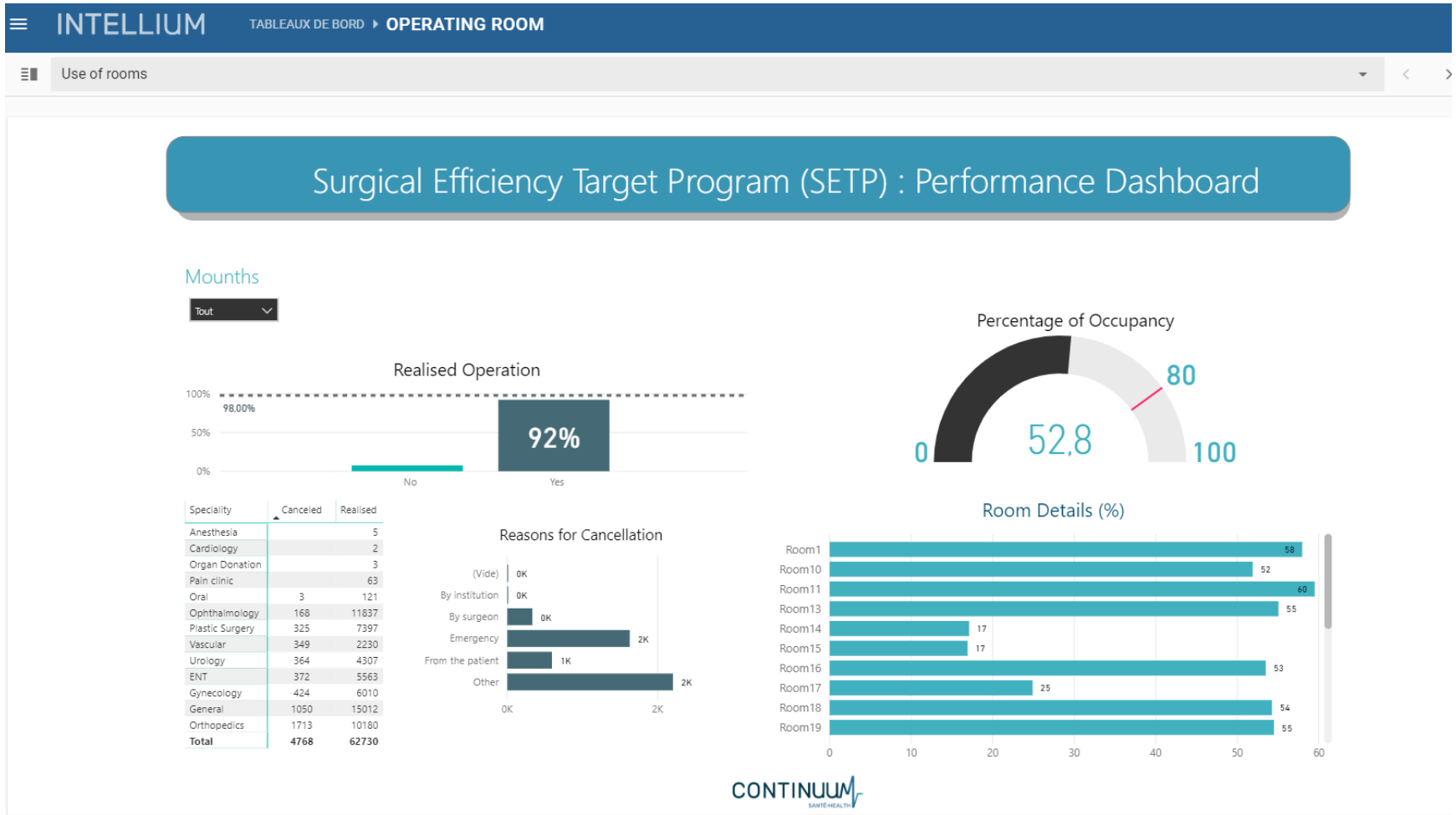
Intellium – Operating room

Indicators showing the use of the rooms by month, by specialties, with the rate and reason of cancellations. It allows users to evaluate the efficiency of rooms and the planning of operations by month or period of the year.



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Intellium – Readmission rate

An overview of the readmission rate of your healthcare establishment comparing actual and previous years, as well as by clinical domain

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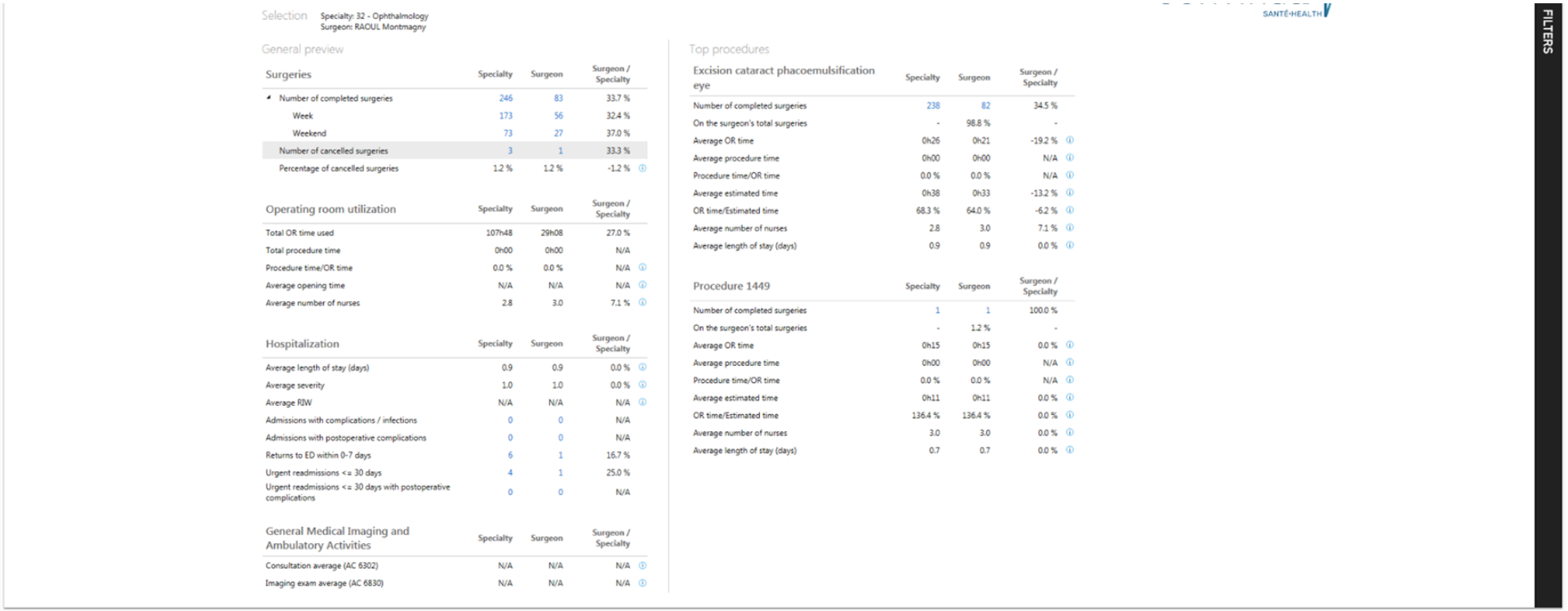
Intellium – Comparison of surgical unit practices by physician

Indicators allowing to target the volumes of operations, the durations of intervention as well as the returns by surgeon. This report compares practices by specialty, intervention and surgeon. It summarizes the information related to the surgical practice as well as the care of the patients externally. It is filtered by surgeon to allow doctors to evaluate their own performance in comparison with their peers of the same specialty. It evaluates the quality and effectiveness of management, use of the operating room and external services and correlates the presence factors in the operating room and outpatient.



Selection Specialty: 32 - Ophthalmology
Surgeon: RAOUL Montmagny

SANTÉ-HEALTH

FILTERS

General preview

Surgeries	Specialty	Surgeon	Surgeon / Specialty
Number of completed surgeries	246	83	33.7 %
Week	173	56	32.4 %
Weekend	73	27	37.0 %
Number of cancelled surgeries	3	1	33.3 %
Percentage of cancelled surgeries	1.2 %	1.2 %	-1.2 %

Operating room utilization	Specialty	Surgeon	Surgeon / Specialty
Total OR time used	107h48	29h08	27.0 %
Total procedure time	0h00	0h00	N/A
Procedure time/OR time	0.0 %	0.0 %	N/A
Average opening time	N/A	N/A	N/A
Average number of nurses	2.8	3.0	7.1 %

Hospitalization	Specialty	Surgeon	Surgeon / Specialty
Average length of stay (days)	0.9	0.9	0.0 %
Average severity	1.0	1.0	0.0 %
Average RIW	N/A	N/A	N/A
Admissions with complications / infections	0	0	N/A
Admissions with postoperative complications	0	0	N/A
Returns to ED within 0-7 days	6	1	16.7 %
Urgent readmissions <= 30 days	4	1	25.0 %
Urgent readmissions <= 30 days with postoperative complications	0	0	N/A

General Medical Imaging and Ambulatory Activities	Specialty	Surgeon	Surgeon / Specialty
Consultation average (AC 6302)	N/A	N/A	N/A
Imaging exam average (AC 6830)	N/A	N/A	N/A

Top procedures

Excision cataract phacoemulsification eye	Specialty	Surgeon	Surgeon / Specialty
Number of completed surgeries	238	82	34.5 %
On the surgeon's total surgeries	-	98.8 %	-
Average OR time	0h26	0h21	-19.2 %
Average procedure time	0h00	0h00	N/A
Procedure time/OR time	0.0 %	0.0 %	N/A
Average estimated time	0h38	0h33	-13.2 %
OR time/Estimated time	68.3 %	64.0 %	-6.2 %
Average number of nurses	2.8	3.0	7.1 %
Average length of stay (days)	0.9	0.9	0.0 %

Procedure 1449	Specialty	Surgeon	Surgeon / Specialty
Number of completed surgeries	1	1	100.0 %
On the surgeon's total surgeries	-	1.2 %	-
Average OR time	0h15	0h15	0.0 %
Average procedure time	0h00	0h00	N/A
Procedure time/OR time	0.0 %	0.0 %	N/A
Average estimated time	0h11	0h11	0.0 %
OR time/Estimated time	136.4 %	136.4 %	0.0 %
Average number of nurses	3.0	3.0	0.0 %
Average length of stay (days)	0.7	0.7	0.0 %

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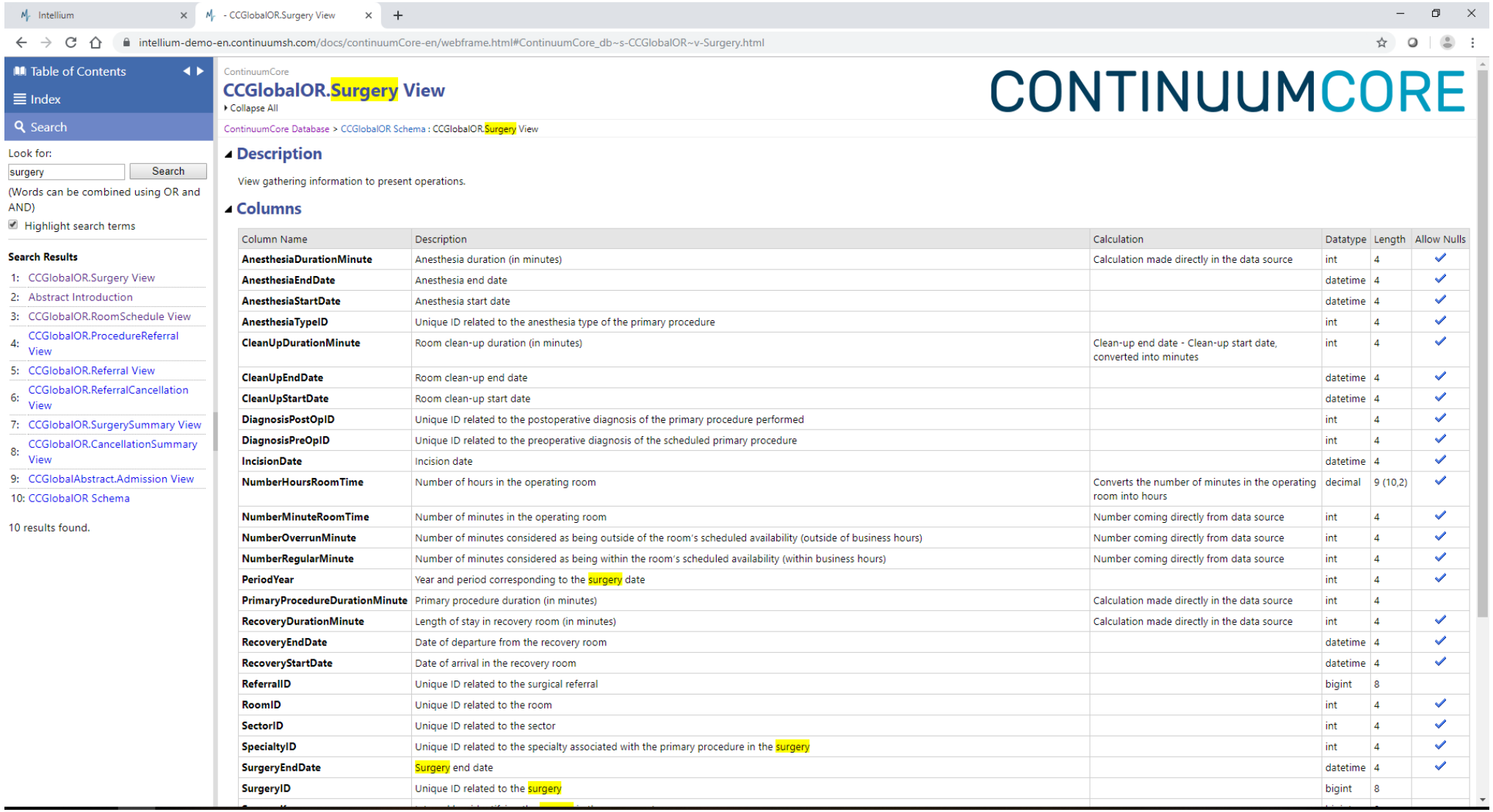
ContinuumCore - Online documentation

Field by field documentation, business area graphic schemas, search function.



Column Name	Description	Calculation	Datatype	Length	Allow Nulls
AnesthesiaDurationMinute	Anesthesia duration (in minutes)	Calculation made directly in the data source	int	4	✓
AnesthesiaEndDate	Anesthesia end date		datetime	4	✓
AnesthesiaStartDate	Anesthesia start date		datetime	4	✓
AnesthesiaTypeID	Unique ID related to the anesthesia type of the primary procedure		int	4	✓
CleanUpDurationMinute	Room clean-up duration (in minutes)	Clean-up end date - Clean-up start date, converted into minutes	int	4	✓
CleanUpEndDate	Room clean-up end date		datetime	4	✓
CleanUpStartDate	Room clean-up start date		datetime	4	✓
DiagnosisPostOpID	Unique ID related to the postoperative diagnosis of the primary procedure performed		int	4	✓
DiagnosisPreOpID	Unique ID related to the preoperative diagnosis of the scheduled primary procedure		int	4	✓
IncisionDate	Incision date		datetime	4	✓
NumberHoursRoomTime	Number of hours in the operating room	Converts the number of minutes in the operating room into hours	decimal	9 (10,2)	✓
NumberMinuteRoomTime	Number of minutes in the operating room	Number coming directly from data source	int	4	✓
NumberOverrunMinute	Number of minutes considered as being outside of the room's scheduled availability (outside of business hours)	Number coming directly from data source	int	4	✓
NumberRegularMinute	Number of minutes considered as being within the room's scheduled availability (within business hours)	Number coming directly from data source	int	4	✓
PeriodYear	Year and period corresponding to the surgery date		int	4	✓
PrimaryProcedureDurationMinute	Primary procedure duration (in minutes)	Calculation made directly in the data source	int	4	
RecoveryDurationMinute	Length of stay in recovery room (in minutes)	Calculation made directly in the data source	int	4	✓
RecoveryEndDate	Date of departure from the recovery room		datetime	4	✓
RecoveryStartDate	Date of arrival in the recovery room		datetime	4	✓
ReferralID	Unique ID related to the surgical referral		bigint	8	
RoomID	Unique ID related to the room		int	4	✓
SectorID	Unique ID related to the sector		int	4	✓
SpecialtyID	Unique ID related to the specialty associated with the primary procedure in the surgery		int	4	✓
SurgeryEndDate	Surgery end date		datetime	4	✓
SurgeryID	Unique ID related to the surgery		bigint	8	

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For Information

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