Clinical Insights Manager

Let's put your data to work
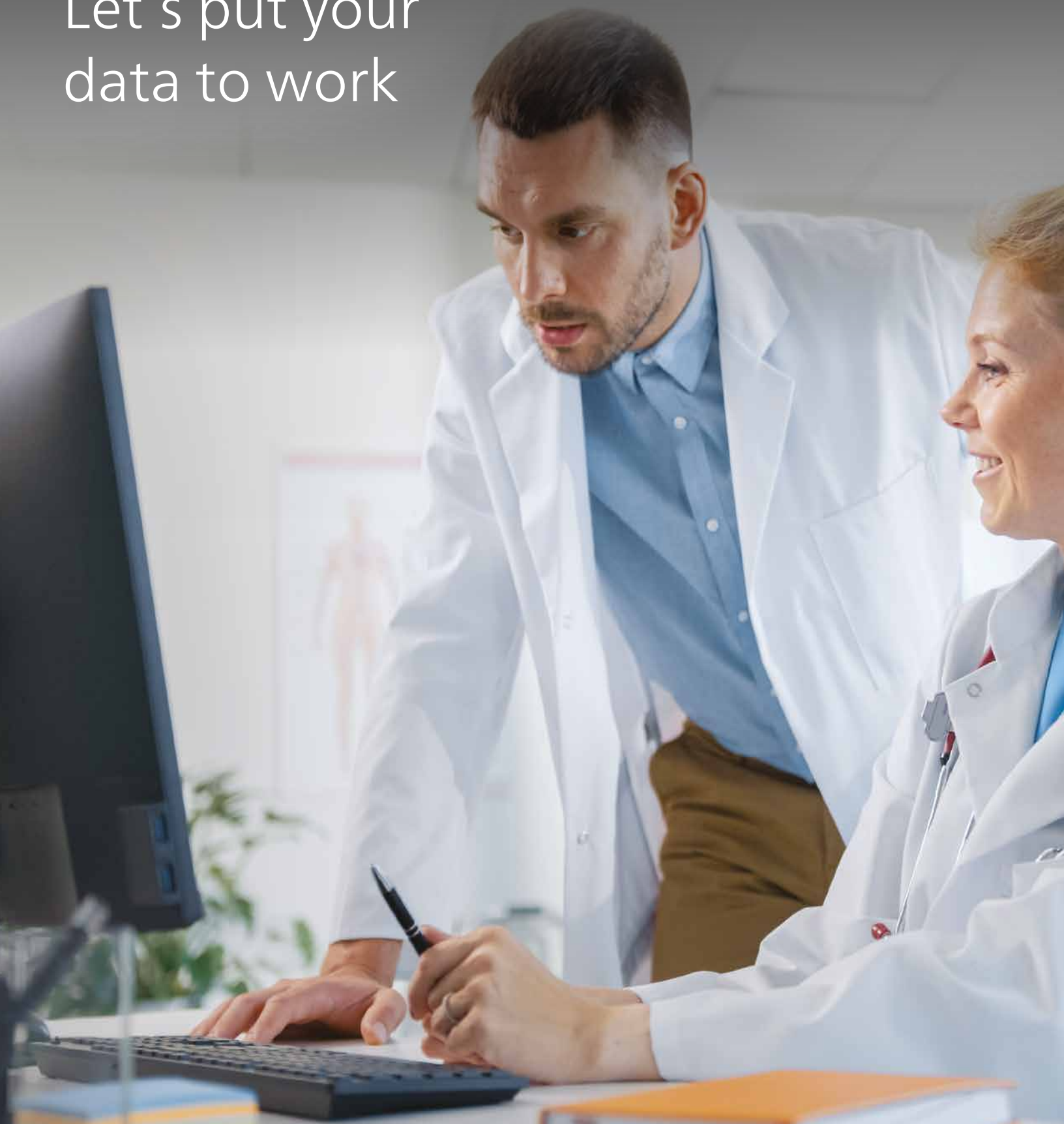
Healthcare providers tell us...

I want to use data to track my telemetry devices and improve operations.

I want data from connected devices for all days spent in the hospital.

I want to do retrospective clinical analysis on alarms, sentinel events, anesthesia cases, etc.

I want to benchmark KPIs across a region, nation or type of provider.

I need a solution that provides us with our data, with access longer than seven days.

I want to reduce our IT footprint.

I want a scalable technology across the enterprise.

We need high quality data to understand how we can improve and better prevent sentinel events from occurring.

We are experiencing too many alarms and struggling with identifying where the real issues lie. We need to understand and improve the alarm situation.

and Philips delivers

Clinical Insights Manager makes rich data clear, manageable and understandable

Sustaining the quality and integrity of data captured from Philips and third-party medical devices, CIM can generate insights, which when leveraged can potentially enhance caregiver workflow to achieve clinical KPIs, for instance reducing alarm fatigue and noise in critical care units.

Researchers, vendors, hospitals, Philips consulting
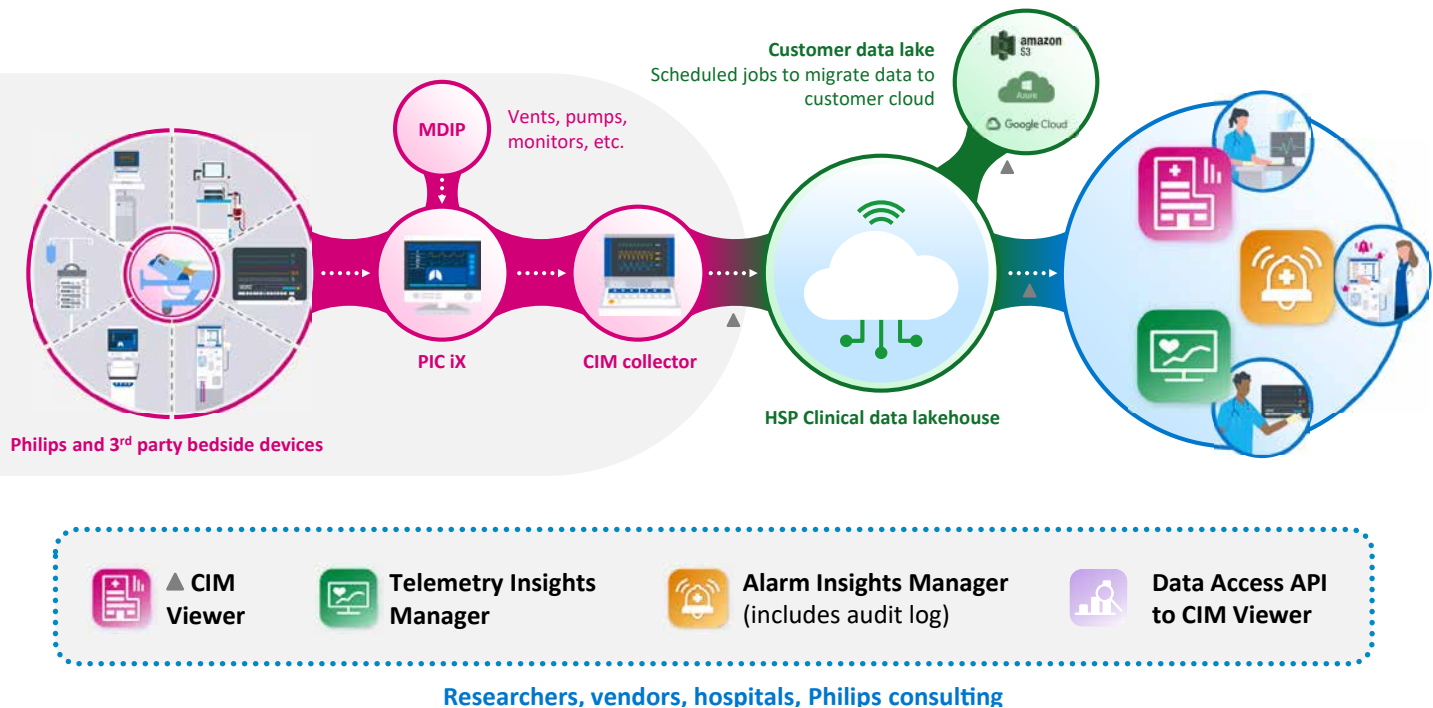
An open and scalable cloud platform supports the aggregation, storage and filtering of high-fidelity retrospective data (including diagnostic-quality ECG). The database management tools and intuitive dashboards aid with the navigation and querying of data sets.

Clinical Insights Manager's available dataset includes

- Patient ADT information from the monitoring system or ADT interface.

- Waveforms: 8 ECG (500 samples/sec) and 20 non-ECG (such as pleth, IBP, EEG, respiration, ventilation, flow, Paw, O_2).
  - 500 samples/sec diagnostic bandwidth
  - 250 samples/sec monitoring bandwidth
  - Stores a maximum of 2 limb leads with all chest leads

- Numeric measurements and calculations: ~1024 ms resolution for periodic parameters, including HR, IBP and SpO_2. Aperiodic numerical parameters are stored when new measurements occur (NBP).

- Alarm, alert, and event information, including technical alarms, event onset time, alarm announcement time and text, alarm silence times.

- Numerics, waveforms and alarms from non-Philips, third-party interfaced devices connected through Philips IntelliBridge EC10 module and Philips Capsule Medical Device Information Platform (MDIP).

CIM enables research collaboration and data sharing, using both identified and de-identified high-fidelity data. High-fidelity data provides the data accuracy and quality which support advancement in healthcare research for proactive and predictive measures.

Philips Clinical Professional Services can help execute quality and research initiatives, create sophisticated analysis algorithms, develop clinical process optimization, and measure progress against established goals.

Discover the power of Clinical Insights Manager

Clinical Insights Manager (CIM) is Philips' cloud-based (HealthSuite Digital Platform), service-enabled, enterprise-wide platform that aids hospitals in capturing, storing and analyzing high-fidelity patient data.

The Clinical Insights Manager platform features three applications — Alarm Insights Manager, Data Viewer and Telemetry Insights Manager — each featuring intuitive dashboards designed to support you in taking steps towards clinical and operational improvement.

Whether you review alarm response, analyze detailed patient records or study telemetry use, the applications of Clinical Insights Manager can enable you to access, query and examine comprehensive high-quality data.

Alarm Insights Manager

Clinical Insights Manager Viewer (Data Viewer)

Telemetry Insights Manager

Alarm Insights Manager

Identify the root cause of alarm challenges

Alarms are unavoidable in acute care settings. Although alarms form an important element of care and are designed to provide patient safety, alarm noise has a negative effect on patients, their families and the clinical staff resulting in lack of trust in the medical devices and the clinicians.

Achieve an effective alarm strategy

The Philips Alarm Insights Manager intuitive dashboard is a web-based interactive application that provides visualization of alarm data through a list of queries that represent various alarm operational metrics. Analyzing the data can potentially reveal insights concerning the root causes of alarm fatigue and standards of care.

- Provides visualization of an intuitive set of alarm key performance indicators (KPIs) to assess alarm burden over hours, days, weeks or months, and by clinic or unit, or by patient or alarm type.

- Identifies actionable insights into hospital alarm system quality through queries, aggregation and filters, to provide insights into the potential root cause of alarm fatigue, improve alarm accuracy and severity.

- Allows for historical benchmark comparisons across units, months, weeks and by specific KPIs for continuous improvement.

- Provides data surrounding alarm, alert and event information, including technical alarms, event onset time, alarm announcement time and text and alarm silence times.

- Provides a one-time migration of the Philips PIC iX central station Alarm Audit Log (maximum 90 days) to Alarm Insights Manager's Alarm Audit Log Migration (AALM) tool.

- Ability to create and save custom reports as well as automate and share reports with stakeholders.

# Clinical Insights Manager Viewer

Transforming data into value

Capturing vast amounts of physiologic data is the norm. However, large volumes of disconnected, disparate data can be overwhelming and fatiguing to those needing information most.

Enhance research and quality improvement projects

Clinical Insights Manager Viewer is a web-based application for reviewing, searching and extracting patient data to be used for research and quality improvement. Clinical Insights Manager provides full high-fidelity waveform data and high-resolution numerical data at 1-second and beat-to-beat intervals.
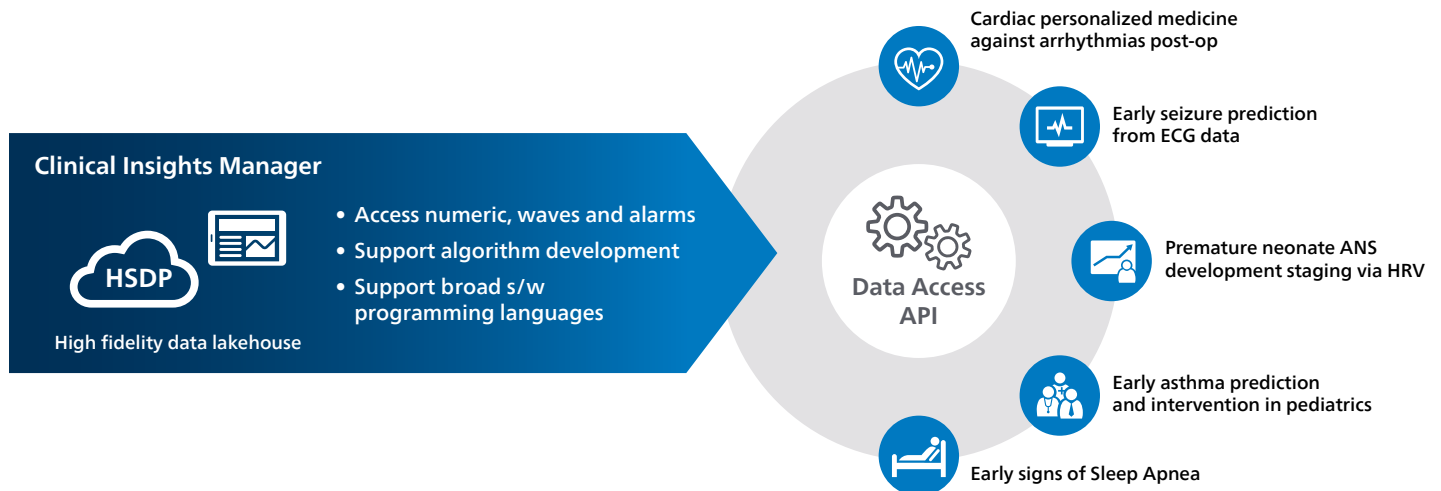
Clinical Insights Manager, being a cloud solution, enables research collaboration and data sharing using both identified and de-identified high-fidelity data for its accuracy and quality which may support advancement in healthcare research for proactive and predictive measures.
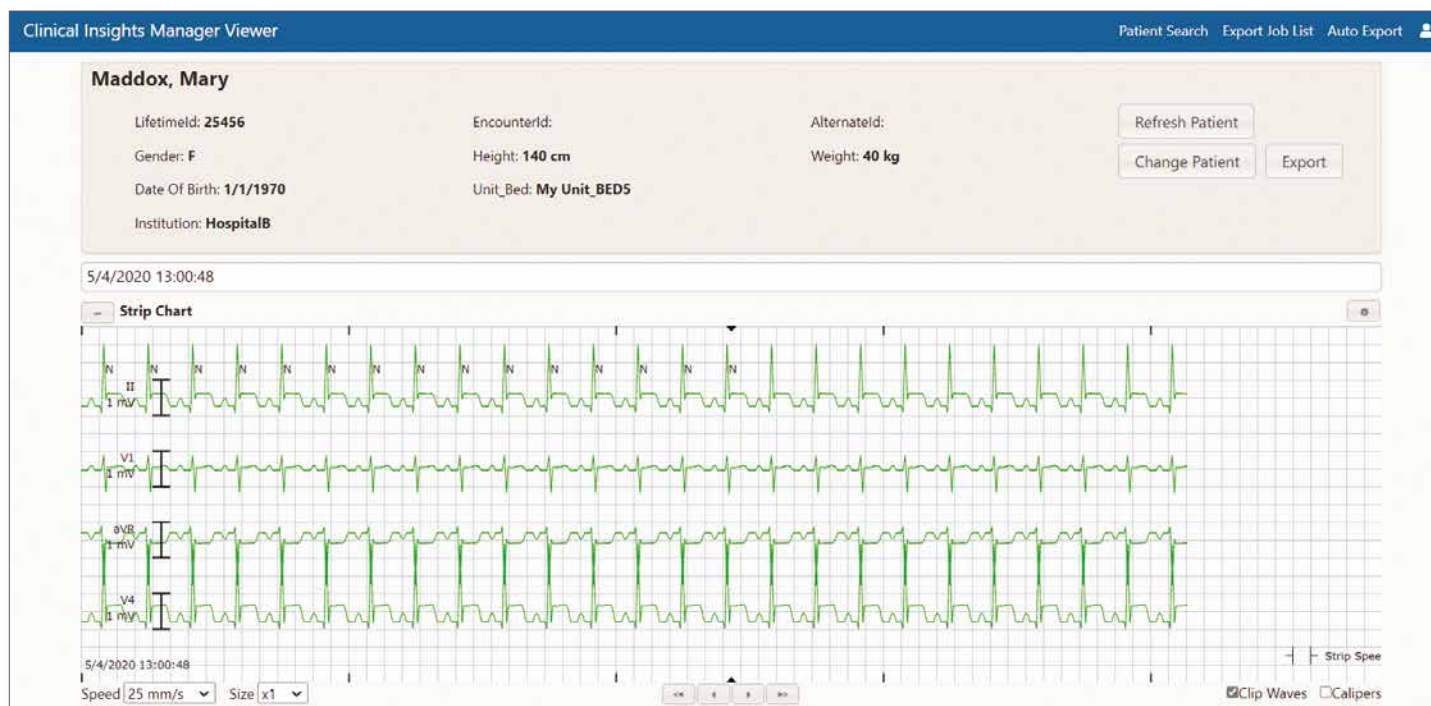
- Access retrospective patient-specific data over one year of prior history.

- Comprise complete patient information such as demographics, waveforms, numerics and alarms — in one intuitive view.

- Ability to search, review, and extract patient data (including the ability to de-identify data).

- Patient Data Auto Export — Multi Cloud Integration allows scheduling of export jobs as a predefined frequency and can integrate with a facility owned and managed cloud storage account such as Google Cloud Storage, AWS S3 or Azure Blob storage.

- Data Access API provides Enhanced QI/research support through fast and easy data migration including improved data quality.

- Aligns all data (alarms, numeric, and waveform) based on an event.

- Allows the user to export a single patient or multiple patient data to the user's local repository.

Data Access API supports algorithm development for a broad range of clinical use cases

Sample clinical scenarios where CIM can potentially assist

Clinical Insights Manager

HSDP

High fidelity data lakehouse

- Access numeric, waves and alarms
- Support algorithm development
- Support broad s/w programming languages

Data Access API

- Cardiac personalized medicine against arrhythmias post-op
- Early seizure prediction from ECG data
- Premature neonate ANS development staging via HRV
- Early asthma prediction and intervention in pediatrics
- Early signs of Sleep Apnea

Key features:
- Supports the following types of API: authentication, restful API to query CIM data, status check.
- Available for all software languages that support execution of restful API and parsing of response.
- Data latency is dependent on volume and network bandwidth.

Telemetry Insights Manager

Optimize your telemetry management strategy

The Philips Telemetry Insights Manager's intuitive dashboard is a web-based interactive application that provides visualization of data through a list of queries that represent various daily and retrospective operational metrics. Analyzing the data can potentially improve efficiency in managing telemetry patients, mobile telemetry equipment and optimizing workflow.

Telemetry Insights Manager...

- Provides visibility of telemetry equipment inventory: assigned, available, or dormant.
- Offers data on arrhythmia severity alarms for evaluating telemetry usage.
- Identifies patients who have active telemetry orders in the Hospital Information System (HIS) yet are not monitored.
- Identifies patients who are monitored and lack an active telemetry order in the HIS.
- Evaluate patients' time on telemetry to address goals such as health care management, quality control, utilizing hospital services and resources, and determining the degree of efficiency.
- Provides access to data for daily management and reporting activities during shift changes.
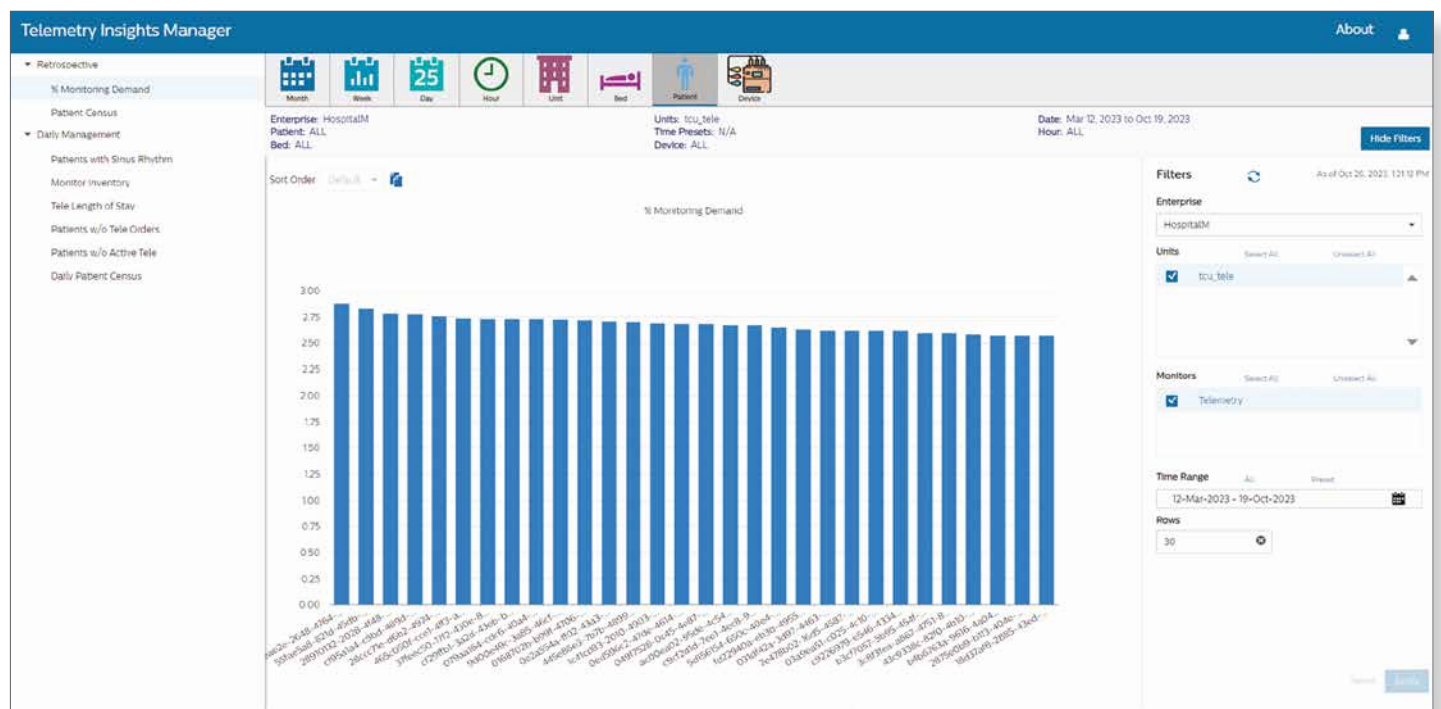
Daily management tools

- **Patients with Sinus Rhythm** – Understand which patients have had arrhythmia alarms in the last 24/48 hours.
- **Device Inventory** – View ledger of device Inventory for assigned, available and dormant telemetry devices.
- **Tele Length of Stay** – Check the length of stay of the patients on telemetry.

- **Patients without Tele Orders** – Monitor patients for whom a tele order has not been submitted in HIS.
- **Patients without Active Monitoring** – See patients with a tele order submitted in HIS, but who have not been connected to a tele monitor.
- **Current Patient Report** – Review current Patients assigned to Tele.

Retrospective analysis tools

- **% Monitoring Demand** – Provides the % of demand on telemetry devices.

- **Patient Census** – Easily review total number of patients admitted to the tele unit.

Getting the solution you need

Philips' Clinical Insights Manager facilitates changing and supporting best practices through accessing data for your clinical research and quality improvement initiatives. Together, we can unlock your data and put it to work!

	Core solution	Add-ons	Keeping costs under control
Quality improvement	**Clinical Insights Manager Viewer** • All data pushed to the cloud • IT support services • Data Access API	Data consulting services Bundle with Alarm Insights Manager, Telemetry Insights Manager	
Alarm management	**Alarm Insights Manager** • Alarm data pushed to the cloud • IT support services	Data consulting services Bundle with CIM Viewer, Telemetry Insights Manager	✓ **Initial implementation costs** ✓ **Tiered annual subscription (3-year contract)** ✓ **Data migration for existing Data Warehouse Connect customers**
Clinical operations	**Telemetry Insights Manager** • Telemetry data pushed to the cloud • IT support services	Data consulting services Bundle with CIM Viewer, Alarm Insights Manager	

Designed to protect your data and security

Clinical Insights Manager facilitates a secure offering with a goal to fortify controls to better withstand cyberattacks and align with privacy regulations.

Privacy/security

Option to de-identify on-premises or upon cloud export

Security assessment according to NIST-800-53 controls

Security and vulnerability scans

Penetration and exploitability testing to find security threats that may come from malicious outsider or insider user of CIM

Data communication

Data at rest in cloud is encrypted using AES 256 RSA

Data at rest on premise is encrypted using AES 256 RSA

All communication uses TLS V1.3

All communication to the applications are via HTTPS only

Network and operation

Microservices are deployed in a Virtual Private Cloud within HealthSuite

API Gateway Architecture

All communication to and within Cloud Microservices is encrypted with HTTPS

Application

HSDP OAuth authenticates each individual uniquely for access to Web Applications

Multi-factor authentication enabled

HTTPS request requires web token issued against an identity management service with short lifetime validity

Why Philips Clinical Insights Manager

- Service-oriented, end-to-end solution enabling high-fidelity physiologic data acquisition, archiving and access.
- Synthesize the high-fidelity clinical data generated by Philips' patient monitoring systems, combined with data from other devices at the bedside.
- Open and scalable cloud platform to enable enterprise-wide expansion.
- Clinical services available to drive clinical innovation and research standardizing care.
- Multi-cloud integration allows export of data to customer owned and managed cloud storage accounts.
- Security by design: providing security for the cloud.
- Sophisticated algorithm development and clinical process optimization.
- A unified One-Philips HealthSuite Platform.

Together, we can unlock your data and put it to work!

Reach out to a Philips representative today to learn more about Clinical Insights Manager.