

PHILIPS

capsule

Product brief

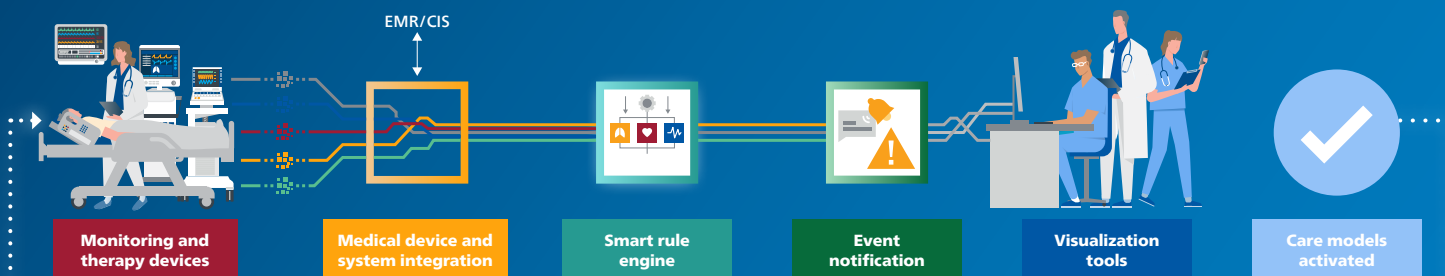
Capsule Surveillance

Detecting potentially emergent clinically actionable events from live-streaming medical device data



From data to decisions

The need for solutions that alert clinicians to emergent, clinically actionable events is increasing due to the rising acuity level of patients throughout the hospital, and the continuing shortage of nurses, respiratory therapists and other care providers.



Helping detect the onset of emergent, potentially actionable conditions.
Unlocking actionable insights, virtually anywhere.

Alarm and event notification

High profile alerts and alarms from nearly all patient-connected bedside devices and systems are sent to the assigned care team in priority fashion. Alerts are filtered to reduce the number of alerts being propagated to avoid worsening alarm fatigue.



Telemetry CMU

Support the telemetry technician in the central monitoring unit with holistic visualization of all device and waveform data, enhanced alert escalation visibility and management, manual alert capabilities, and ECG strip annotation and export.



Specialty oversight

Tailored solution to support specialty trained nurses and caregivers to help them receive alarms and alerts from specialty devices and review live streaming patient data when they cannot be at the bedside.



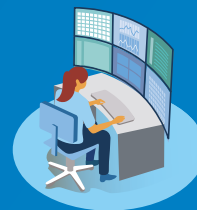
General care oversight

Support caregivers where nurse to patient ratios are low with a way to watch for possible unnoticed decline and alert for early signs of respiratory distress.



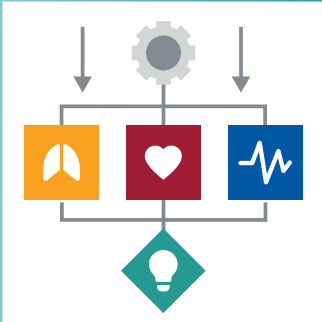
Virtual care/telehealth

Visibility to all data, alarms, and alerts from patient-connected bedside devices and systems is critical to allow remote caregivers to see the patient's clinical picture when not at the bedside.




Capsule Surveillance core capabilities


Philips Capsule Surveillance aggregates and analyses data across devices, in near-real time, to provide caregivers notifications and views related to changes in patient condition, as opposed to merely replicating views from the source medical devices. It also provides a set of patented Smart Rules which are logical expressions that evaluate incoming patient data and device settings to create custom smart alerts meant to provide caregivers with insight into evolving patient conditions. Capsule Surveillance also propagates alerts to caregivers with a customer-defined alert routing and escalation path.



Smart Rules
Deploy configurable rules on live streaming data.



Visualization
Provide patient data views accessible from virtually any location.



Event management
Deploy alarms and alerts to each assigned caregiver.



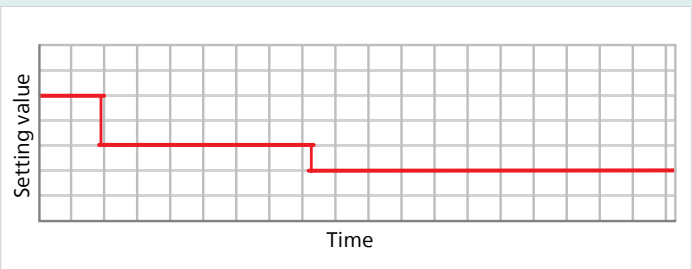
Condition-specific alerts from patented Smart Rules*

Capsule Surveillance allows for user configuration of specific Smart Rules. As part of implementation, Capsule will provide a Smart Rules configuration best-practice guideline based on current literature and validated experience. Hospital clinical staff work with Capsule clinical specialists during the clinical design sessions to determine the rule configuration per facility and care area.

Setting alert

A setting alert occurs when a device setting that is monitored is changed.

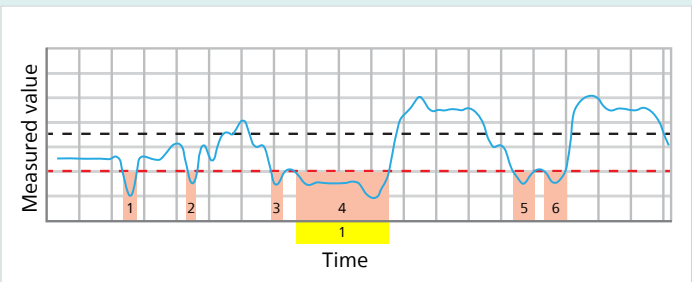
Example ventilatory changes over time in a CABG patient: Alert is triggered because NBP setting value changed more than two times during a shift, indicating potential disruptions to patient monitoring.



Sustained alert

A sustained alert occurs when a measurement or alarm violates the defined range for either the entirety of a given time period or a given number of counts within that time period.

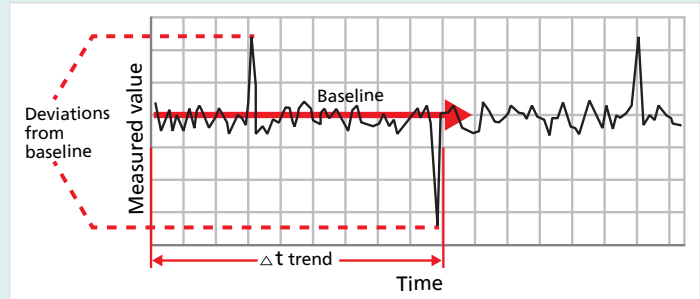
Example: Alert is triggered by SpO₂ less than 85% sustained over sixty seconds, indicating possible hypoxemia and impaired tissue oxygenation.



Trend alert

A trend alert occurs when a given value (patient measurement) deviates from its average by a given percentage within a defined period.

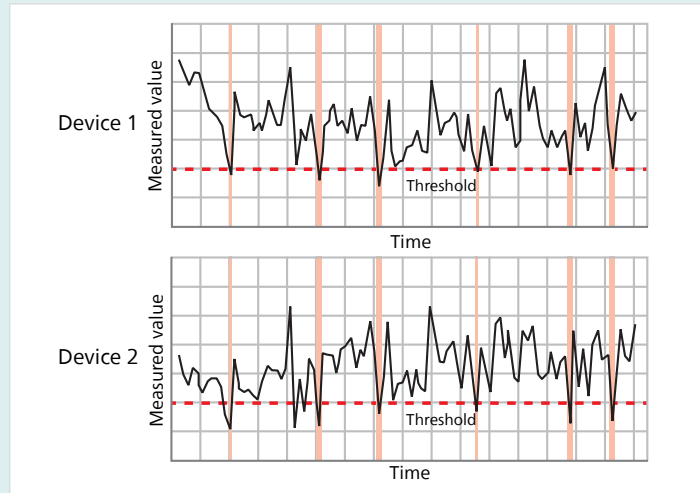
Example: Alert is triggered by RR exceeding normal breathing by 20% over a five minute average, indicating possible onset respiratory deterioration.



Combination alert

A combination alert occurs when multiple alert conditions trigger simultaneously across multiple devices (e.g., a monitor and a ventilator) or within one device.

Example: Alert is triggered by HR <45 bpm and SpO₂ <85%, indicating bradycardia with associated hypoxemia, which signify possible evolving critical cardiovascular and respiratory compromise.



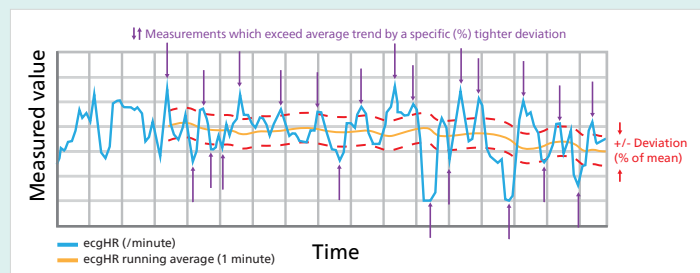
Clinical guidelines supported by Philips Capsule Surveillance

- Surveillance can manage conformance of parameter settings with guidelines, such as adherence to lung protective tidal volume and prolonged mechanical ventilation guidance in mechanically ventilated patients as recommended by National Association for the Medical Direction of Respiratory Care (NAMDRC)
- Surveillance provides clinically actionable alerts to aid in adherence to best practices recommended by BTS/ERS and clinical management in non-invasively ventilated patients
- Surveillance aids in the identification of patients with potential opioid-induced respiratory depression (OIRD) as defined by ASA/BJA and supported by large-scale clinical trials, such as the PRODIGY-II
- Surveillance can be configured to detect significant behaviors in oxygen saturation, which may signal decline or desaturation, or in combination with other indicators of significant physiological findings consistent with respiratory distress, hypoperfusion, or specific disease or illness process as recommended by the American Association of Respiratory Care (AARC)

Instability alert

An instability alert occurs when a measurement value deviates by a defined percentage within a defined period a certain number of times.

Example: Alert is triggered when HR deviates by 20% from the resting 60-100bpm, three times during a five minute interval indicating that the patient may be becoming unstable.



Capsule Surveillance also features Smart Rules for generating combination alerts, expression alerts, and ECG leads off alerts.



Visualization

Visualize live streaming numeric device data and waveforms (including access to any data variable coming from hundreds of types and brands of devices) for every patient in a care unit.

Matrix view with smart alerts

Notification pane

Visualization of alert status and progress in escalation to clinicians in real-time.



My watchlist

Configure customized watchlists to view a subset of patients.

Patient tile

Click on a patient tile to view details, such as waveforms, trends, events, device settings and smart alerts.



Trended device data

Review recent trends across multiple measurements to assist in assessing changes in patient condition.

- Customize views to compare selected device measurement trends



ECG Tool

Access the ECG Tool to evaluate, annotate, and export ECG waveforms.

- ECG Tool allows telemetry techs and clinicians to annotate and document waveforms in Surveillance
- Users can either send wave strips to the EMR or to another user for approval

Receive data and smart notifications on-the-go

Integrated with a popular third-party staff assignment client or Clinical Communication and Collaboration application, Capsule Surveillance can be configured to route notifications to clinicians on the go which may include call back numbers for easy communication to the patient room or other communication center. Capsule Surveillance's clinical interface will display on a remote device that accesses the surveillance server after user authentication.

My Watchlist

View live-streaming device data for any patient in a unit. Select assigned patients for quick identification.



Patient detail view

See all detailed patient physiological measurements, waveforms and alerts.



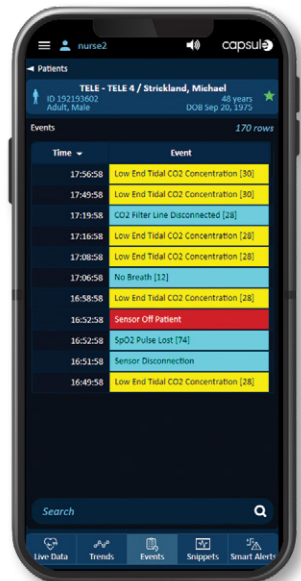
Trended data

Review a patient's past measurements, events and configured settings.



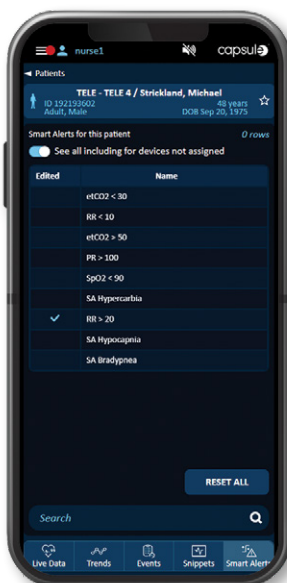
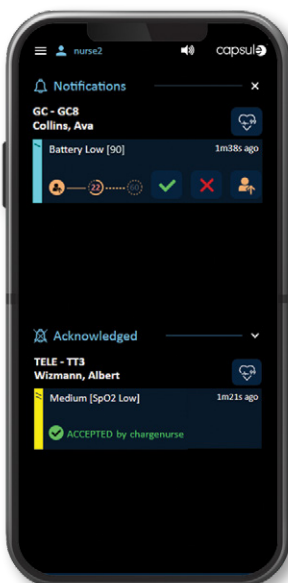
Events

Scan a chronologic and detailed view of a patient's clinical events.



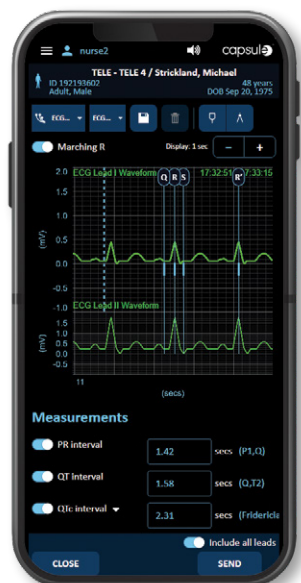
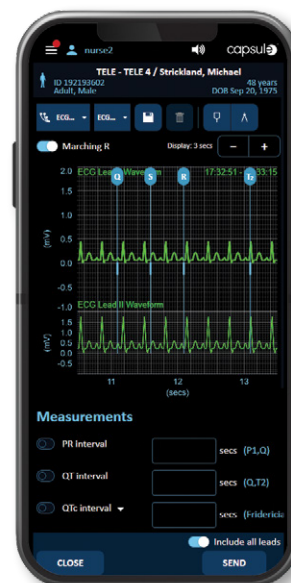
Smart alerts

Review a patient's smart alerts. Authorized users can adjust Smart Rules thresholds with personalized limits.



Mobile ECG Snippet Tool

Access to full featured ECG tool from mobile device – view, edit, and create ECG snippets on the go.





Alarm and Event Management

Propagate device alarms, optional curated smart alerts, and other alerts to a workstation or any remote device. An alert management dashboard helps manage the communication and escalation of critical alerts. Utilize existing staff assignments from Epic Treatment Teams, Rauland Nurse Call, and Baxter Nurse Call.

Escalation pathway

Caregivers can track alerts and alarms relevant to them in the escalation pathway and view a countdown as the alert escalates to the next caregiver.

TELE - TT3
Wizmann, Albert

Medium [SpO2 Low]

1m21s ago

ACCEPTED by chargenurse

ACCEPTED

May 9, 2024 16:45:47 Accepted by chargenurse

May 9, 2024 16:45:30 Escalated to level 3

May 9, 2024 16:45:30 Escalated by TIMEOUT

May 9, 2024 16:45:00 Escalated to level 2

May 9, 2024 16:45:00 Escalated by TIMEOUT

May 9, 2024 16:44:30 Sent to level 1

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Notifications

GC - GC8
Collins, Ava

Battery Low [90]

1m38s ago

Acknowledged

TELE - TT3
Wizmann, Albert

Medium [SpO2 Low]

1m21s ago

ACCEPTED by chargenurse

CVICU - ICU 1 / Chang, Dana

ID 903938726 50 years Adult, Female DOB Jun 6, 1973

Select Alert

Assistance needed

Emergency

Code BLUE

Info:

Go to patient

Append text (optional) 30 characters max

Cancel

Activate

Manual Alert Menu

Create manual alerts to targeted clinicians for timely communication regarding issues of potential concern.

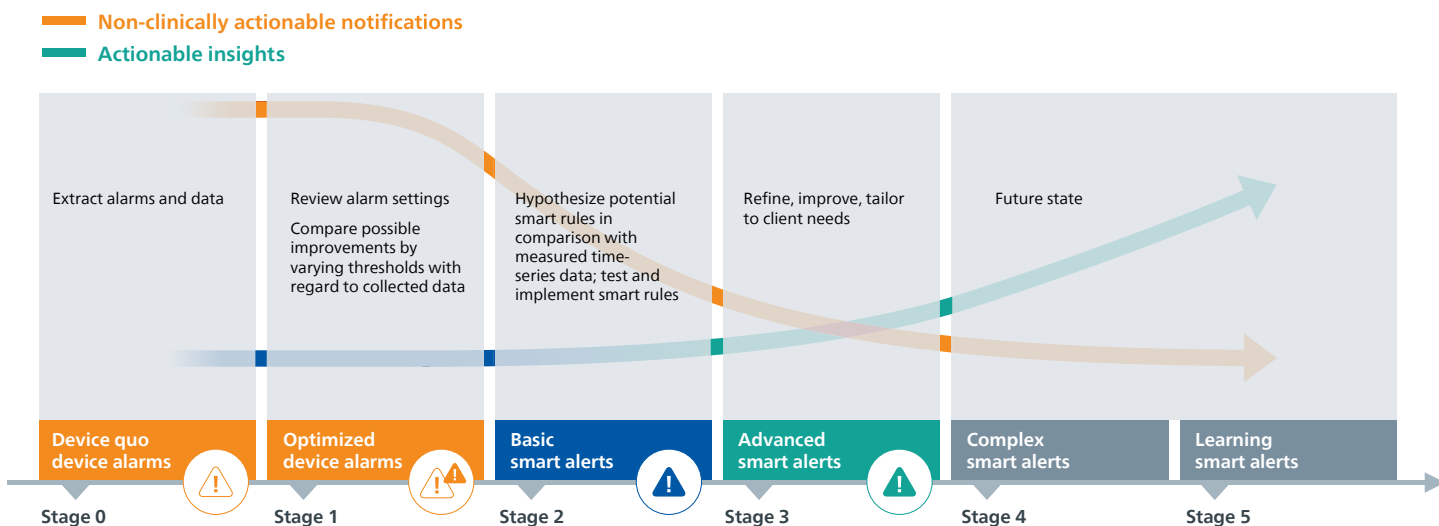
Capsule Surveillance continuous optimization process

Philips Capsule smart alerts derived from applying Smart Rules can be customized, refined, and evolved per needs. The process of implementing and deploying smart alerts follows an iterative and continuous process called the Clinical Surveillance Maturity Model (CSMM).

The CSMM process, illustrated below, starts at stage 0 with an alarm assessment to highlight the chief challenges and the prospects of improving these by making initial alarm adjustments. This then evolves towards stages 1, 2, and 3 over which device alarm settings could be optimized and basic and advanced smart alerts would be activated in Capsule Surveillance.

Progressing to stages 4 and 5, advanced users could potentially sharpen the surveillance system's ability to detect emergent, clinically actionable patient events by incorporating complex smart alerts and, possibly, expert learning alerts as technologies progress.

As part of Capsule Surveillance implementation, Philips Professional Services provides Smart Rules configuration best-practice guidance based on current literature, experience and your patient population's needs. Capsule clinical specialists consult with hospital clinical staff in design sessions to help optimize the rule configuration at the unit level.



Reporting and analytics

High-resolution patient data is available for query by Philips Capsule experts or your own informaticists using standard SQL query tools. Compare device-generated alarms with Smart Rules alerts and perform 'what if' assessments.

Capsule Surveillance reports help hospitals to set a baseline for understanding their specific volume of medical device generated alarms for the facility, department, and individual patients.

These reports can be part of an ongoing performance improvement strategy and inform efforts to address the Joint Commission's National Patient Safety Goal on alarm fatigue and management.

Enhance reporting and analysis by integrating Capsule Surveillance and Philips Clinical Insights Manager, our cloud-hosted solution for data management and retrospective analytics.

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