

ALERTWATCH[®]:OR PRODUCT BRIEF

ACTIONS/INACTIONS IN THE OPERATING ROOM CAN CREATE PROBLEMS AFTER SURGERY

THE OR IS DATA RICH, BUT INSIGHT POOR

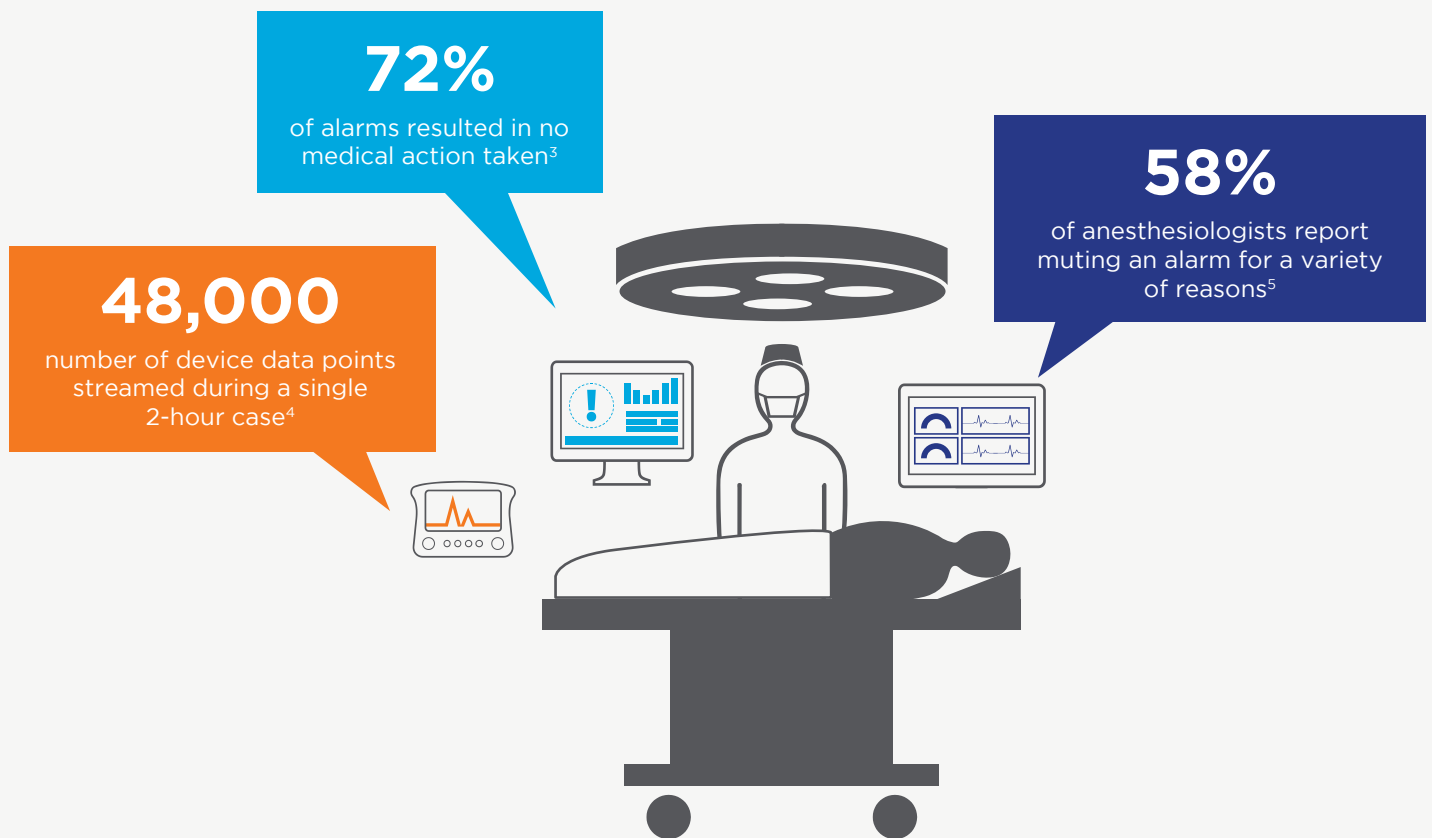
From lab values and medical records to monitoring device data, each case generates a vast amount of data. But because it's not accessible, contextual or in a usable format, the data itself can create information overload for OR teams.

DECISIONS CAN INCREASE RISK AND LENGTH OF STAY

Any action or inaction in the OR can have repercussions for the patient. Periods of low blood pressure can increase risk of heart attack;¹ poorly-managed glucose can lead to post-surgical site infections.² Both can negatively affect outcomes post-procedure and keep patients hospitalized longer.

ALERT + ALARM DESENSITIZATION CREATES RISK

If alarms are turned off to prevent distraction, the additional diagnostic benefit is lost. If they're left on, they can lead to distraction and confusion. The extremely high rate of false alarms adds to the problem, potentially desensitizing clinicians to true alarms.



¹ Relationship Between Intraoperative Mean Arterial Pressure and Clinical Outcomes after Noncardiac Surgery; Anesthesiology, 2013

² Impact of an Intraoperative Diabetes Notification System on Perioperative Outcomes; ASA Poster, 2012

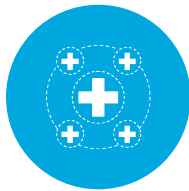
³ Chambrin MC, Ravaux P, Calvelo-Aros D. Multicentric study of monitoring alarms in the adult intensive care unit (ICU): a descriptive analysis. Intensive Care Med 1999;25(12):1360-6.

⁴ Data on File. Qualcomm Life. 2018.

⁵ Kruger GH, Tremper KK. Advanced Integrated Real-Time Clinical Displays. Anesthesiology Clinics. Volume 29, Issue 3, September 2011.

ALERTWATCH:OR INTELLIGENCE AT A GLANCE

AlertWatch:OR improves on human-loop monitoring by helping OR teams navigate large amounts of real-time and historical data. Using over 80 proprietary algorithms, automated calculations and alerts, it extracts, analyzes, integrates and presents over 250 data elements in a clear, graphical manner. AlertWatch:OR can improve situational awareness and give clinicians the insight they need to respond quickly and appropriately.



ONE LANDMARK STUDY FOUND IMPROVED OUTCOMES

In one study of 26,769 ASA III/IV patients at the University of Michigan,⁶ the following benefits were found:

- One-day reduction in hospital length of stay
- \$3,603 reduction in total cost of surgical encounters
- 50% improvement in blood pressure management
- Improvement in intraoperative glycemic management
- Better adherence to accepted intraoperative process measures



REDUCES PATIENT RISK

- Conveys patient status in real time, along with smart contextual alerts in the event of an unsafe situation or trend
- Provides a comprehensive view of the patient by integrating data elements from monitors, H&P, labs and flowsheet sources
- Guides best practices with embedded, clinically-accepted algorithms



ENHANCES INSIGHTS + CASE MANAGEMENT

- Delivers continuous data analysis, providing real-time patient status
- Rapid assessment and prioritization of cases based on clear metrics and trends, helping reduce subjectivity
- Improves care coordination through a comprehensive digital hand-off form
- Enhances workflow with automatic routing of notifications to supervising physicians

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⁶ Kheterpal S, Shanks A, Tremper K. Impact of a Novel Multiparameter Decision Support System on Intraoperative Processes of Care and Postoperative Outcomes. *Anesthesiology* 2018; 128:272-82

⁷ Sathishkumar S, Lai M, Picton P, Kheterpal S, Morris M, Shanks A, Ramachandran SK. Behavioral Modification of Intraoperative Hyperglycemia Management with a Novel Real-time Audiovisual Monitor. *Anesthesiology* 2015;123(1):29-37.

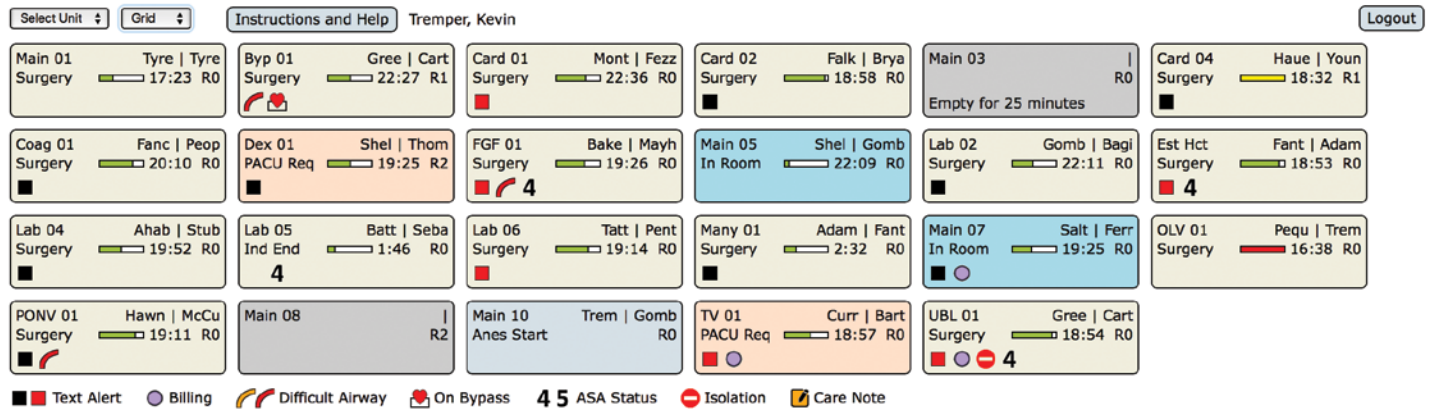
* One study over 6 years and 26,769 patients found; AlertWatch:OR reduced LOS by 1 day, reduced encounter costs by \$3,603, improved blood pressure management by 50% and drove improved adherence to process measures.

† One 19 month study involving 2,341 patients found AlertWatch:OR improved intraoperative glycemic management.

Powering Intelligent Care Everywhere

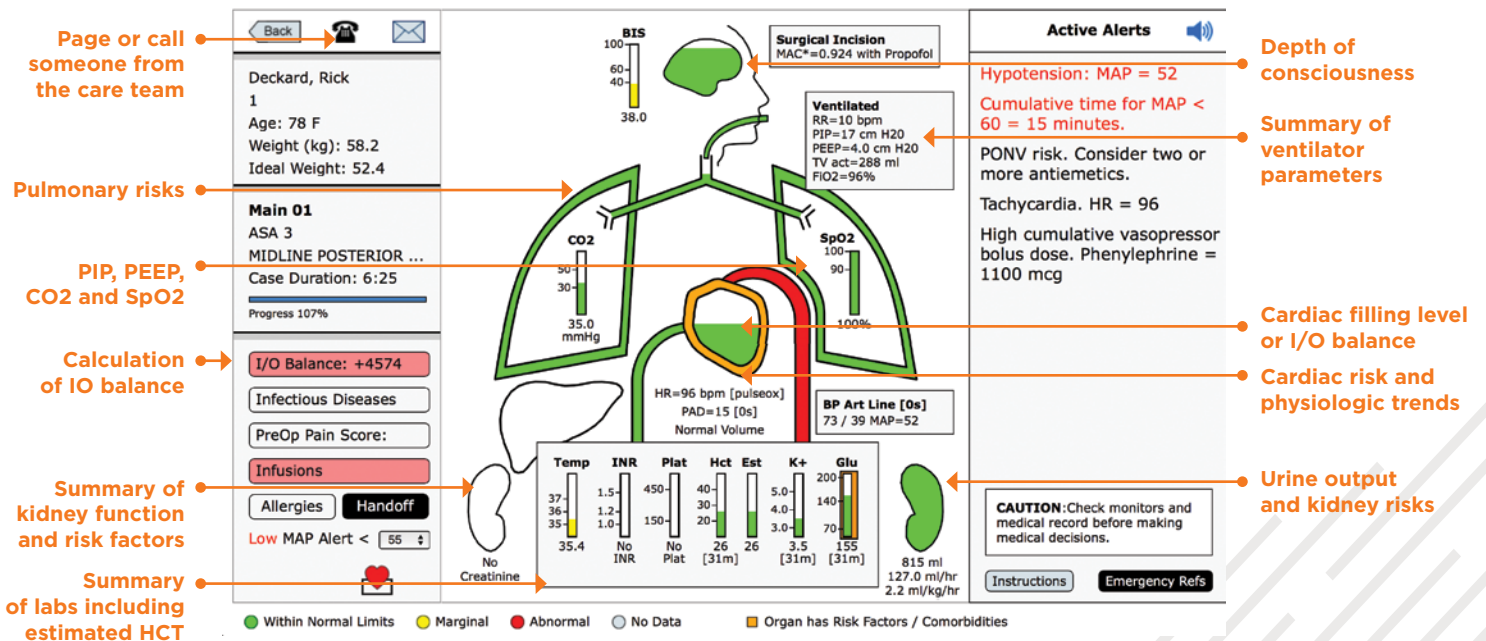
MULTI-PATIENT DASHBOARD

Displays the progress of cases and the status of patients, along with any alerts, risk factors or precautions. Clicking on any OR icon will bring up the individual patient view.



SINGLE-PATIENT DASHBOARD

Displays an array of individual patient information including active alerts, lab results and a dynamic view of the patient's organ system for an intuitive, at-a-glance view of status and trending.



SYSTEM REQUIREMENTS

To run the AlertWatch system, there are a number of technical requirements. These can vary based on the integration plan, size of the site and number of AlertWatch systems that will be run at the site. The requirements listed below are the standard, and some requirements may be more flexible than others. Please review with a Qualcomm Life representative before making final decisions.

HARDWARE

WEB SERVER

To host the AlertWatch web system a Windows Web Server is required. This server should have Internet Information Services (IIS) and enough disk space to store the applications, space for system performance logs and a bit of room to grow. This can be, and typically is, a virtual server hosted on an internal server farm. This server will also be the primary remote access point for the Qualcomm Life installation and maintenance team to access the system.

COMPONENT	REQUIREMENT	DETAILS
Operating System	Windows Server 2016	
RAM	8 GB	
CPU	4 cores 2.40 GHz	
Disk Space	50 GB free space (~75 GB total)	-25 GB for OS and standard software
IIS Version	IIS 8 and up	
Installed Software	SQL Server Management Studio* Site Standard Web Browser	Pending SQL access via another route AlertWatch supports: Internet Explorer 9+, Chrome, Firefox

* See Access Section

SQL SERVER + DATABASE(S)

REQUIREMENTS FOR THE CONFIGURATION DATABASE

The AlertWatch system requires a SQL database to store:

- Configuration tables (site configurable alert thresholds, levels for setting colors on display, etc.)
- A log table of system events (user access, alerts triggered, user comments, etc.)
- Dynamic tables to manage the current list of patients and analyzed data
- Stored procedures and functions for accessing the data and saving log entries

Over time, the log table will utilize the most space in the configuration database. The rate of log table growth depends on the size of the site and the daily usage at the site. The truncation scheme of the log table can vary depending on the site's preferences.

COMPONENT	REQUIREMENT
SQL Server Version	SQL Server 2012+
Database Space	20 GB
Growth	Varies based on client's retention policy

EXTRACT DATABASE REQUIREMENTS

For systems leveraging web services, an additional database is required to manage web service calls and temporarily store the results of the web services. This database will be referred to as the AlertWatch Extract database. The size of this database will vary depending on the size of the site, the number of web services being accessed and how long data should be stored after patients have left the system. It represents a current set of patients, so the size of this database should be relatively stable over time.

COMPONENT	REQUIREMENT
SQL Server Version	SQL Server 2012
Database Space	40 GB
Growth	Varies based on client's retention policy

ACCESS

There are several points of access and credentialing required:

1. Qualcomm Life installation and maintenance team will need access to the AlertWatch Web Server
2. Qualcomm Life installation and maintenance team will need to connect to the SQL databases
3. A service or system account (resource account) should be provisioned so that the AlertWatch web system can access the SQL data in IIS
4. Web service credentials should be granted for accessing the requested web services

It is important to decouple the access in #2 and #3 so that access issues for the Qualcomm Life installation and maintenance team do not compromise the availability of the AlertWatch system.

FOR MORE INFORMATION, CONTACT US

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