

# Masimo Patient SafetyNet™\*

Remote Monitoring and Clinician Notification System



\* The use of the trademark Patient SafetyNet is under license from University Health System Consortium



# Patient SafetyNet in Action

## When You Leave the Room, You'll Still Be There

Patient SafetyNet is a remote monitoring and clinician notification system, displaying near real-time information from any connected Masimo or third-party device at a central station and allowing for alarms and alerts from bedside devices to be sent directly to clinicians.



### Bedside Device Connectivity

Continuous and noninvasive measurements from devices securely sent to Patient SafetyNet



### Ingest Data from Multiple Wearables

Displays physiological data from Radius PPG™ or patient positioning from Centroid™



### Multiple Displays

Features applications that display vitals in multiple ways, either on a large screen with UniView™ or on a tablet outside the room with UniView 60™



### Simplified Workflow with ADT Integration

Interfaces with hospital HL7 Admit, Discharge, and Transfer (ADT) system for simplified patient association



### Customizable View Station

Monitor up to 80 patients at a glance with choice of Icon and/or Numeric Views, to quickly investigate patient alarms and review trend data from a central monitoring station



### Analytics

Improve workflow by analyzing data with Iris® Analytics



### Mobile Clinician Notification

Alarm notifications are sent directly to clinicians



### Information on the Go

Connects wirelessly to tetherless wearable devices



### Seamless Data Transfer

Data from connected devices is automatically sent to the electronic medical record (EMR)

## Continuous Monitoring

- > According to the Anesthesia Patient Safety Foundation (APSF), post-operative patients should have oxygenation monitored by continuous pulse oximetry.<sup>1</sup>
- > Using industry-leading Masimo SET<sup>®</sup> and upgradeable rainbow SET<sup>™</sup> technologies, Masimo bedside devices provide continuous and noninvasive monitoring of oxygen saturation, pulse rate, respiration rate, total hemoglobin, and other clinically-valuable measurements.
- > Third-party point-of-care devices are also supported with Patient SafetyNet.



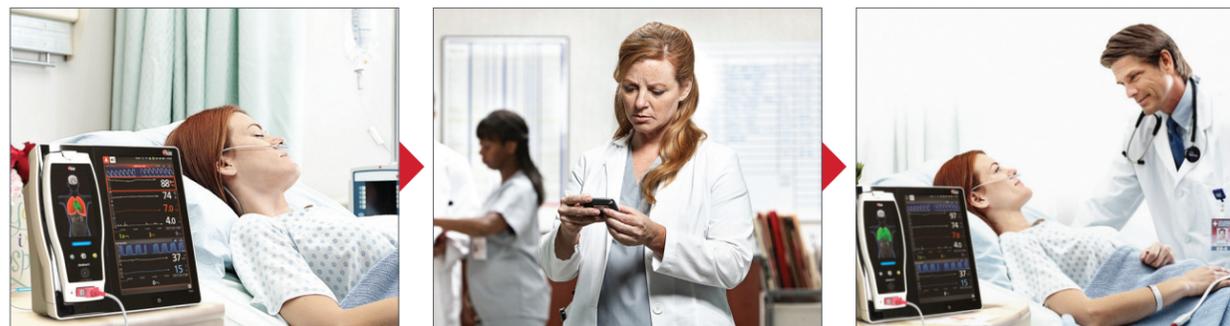
## Alarm Management

- > In a study comparing three pulse oximetry technologies, Masimo SET<sup>®</sup> demonstrated the highest sensitivity and specificity in identifying desaturation events during conditions of motion and low perfusion.<sup>2</sup>
- > Patient SafetyNet enables the customization of alarm and notification thresholds to meet clinical requirements, while avoiding nuisance alarms.



## Real-time Clinician Notification

Patient SafetyNet sends actionable patient alarms directly to qualified clinicians for immediate patient assistance.

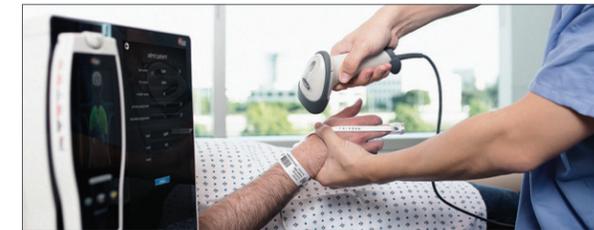


Configure alarm thresholds and delays by patient population to manage alarms.

Clinician is notified remotely of alarm at the bedside.

If primary clinician does not respond, the alert is escalated to additional clinicians.

## Patient Association via ADT

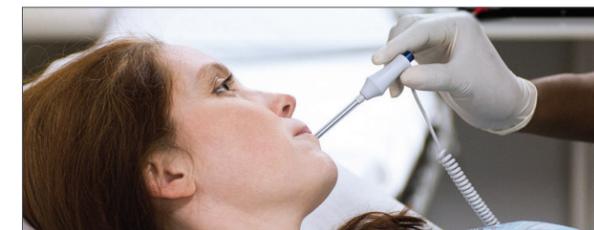


Scan patient wristband using a barcode scanner attached to the Root device (or select patient from drop-down list) to associate the patient, device, and clinician at the bedside.



ADT can also be done via Replica<sup>™</sup> on a mobile device or at the Patient SafetyNet View Station.

## Direct Integration into EMR



### Vital Signs Monitoring

Root with integrated, noninvasive blood pressure and temperature monitoring sends patient vital signs data directly to the EMR.



### Electronic Charting

Patient SafetyNet interfaces with hospital EMR system using HL7 for automated documentation of patient data.

## Connectivity Options

Automatic data transfer from medical devices to the EMR could improve productivity and reduce the likelihood of transcription errors.<sup>3</sup>



### Masimo and Third-party Devices

Root and iSirona<sup>™</sup> act as connectivity hubs for third-party standalone devices.

### Patient SafetyNet

Patient SafetyNet converts all Masimo and third-party standalone device data into HL7.

### EMR

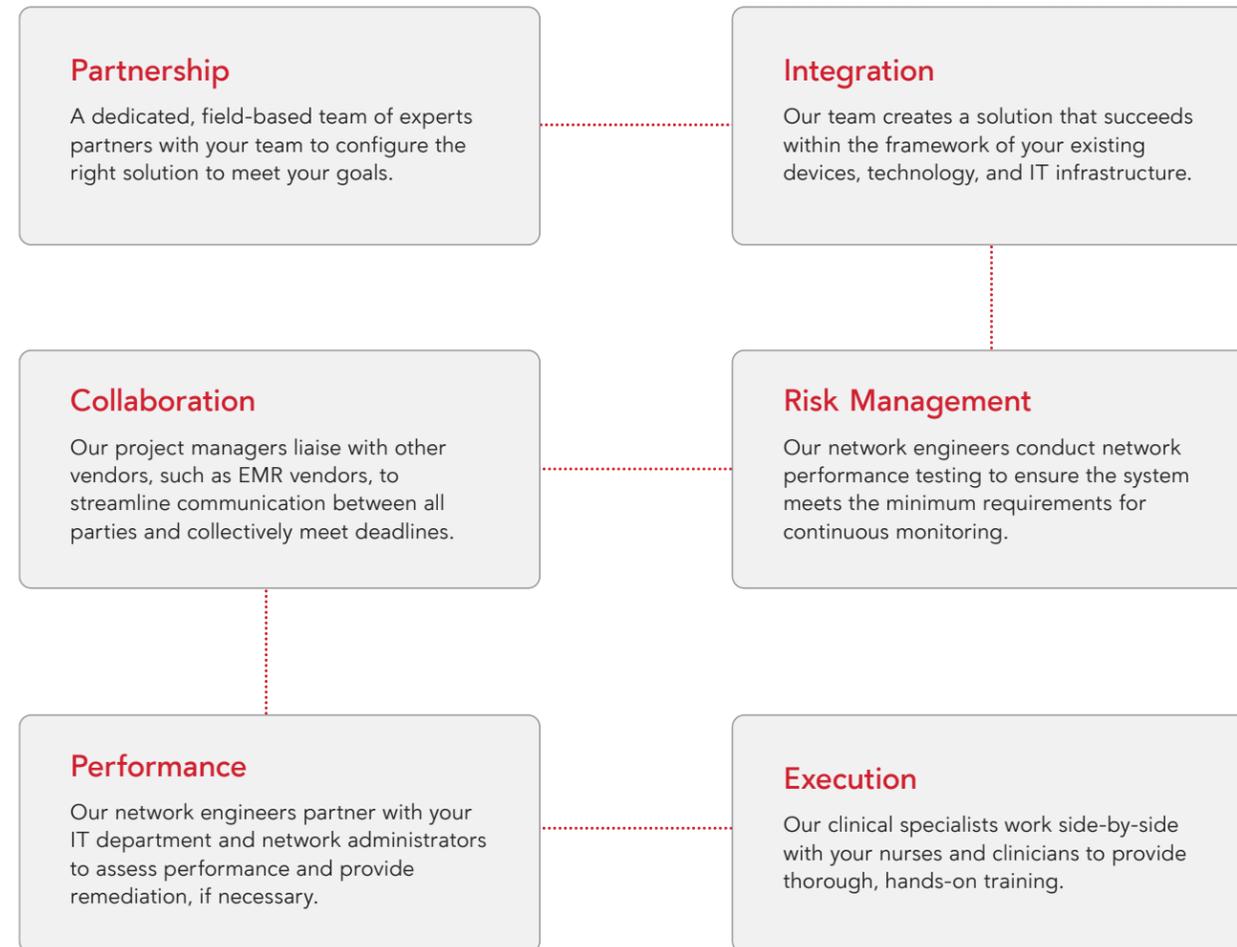
Patient SafetyNet automates data transfer from multiple devices to the EMR.

<sup>1</sup> Weinger MB, et al. *APSF Newsletter*. 2011;26(2):21-40. <sup>2</sup> Shah N et al. *J. Clin Anesth*. 2012 Aug; 24(5):385-91.

<sup>3</sup> The Value of Medical Device Interoperability. West Health Institute. 2013.

## A Custom-Tailored Solution

Patient SafetyNet can be configured to support your individual patient populations and alarm management strategies.



*"The implementation of the Patient SafetyNet system was successful due to the collaborative efforts put forth by Crouse Hospital IT and Masimo. The Masimo team has a vast knowledge of systems, networking, and clinician needs. They were always supportive of our needs and their passion and dedication are second to none. By choosing Masimo, we received a great system, great people, and a great partner."*

**Matt Mahoney,**  
Project Manager - IT,  
Crouse Hospital, Syracuse, NY

## Improving Outcomes in the General Ward

Patient SafetyNet and Masimo bedside devices were implemented in a top research hospital, Dartmouth-Hitchcock Medical Center, to address the need for continuous monitoring and alarm management in general care areas.



Researchers reported that Patient SafetyNet enabled the facility to achieve zero opioid-related preventable deaths or brain damage over a five-year period,<sup>4</sup> and maintain a 50% reduction in unplanned transfers and 60% reduction in rescue events over a ten-year period.<sup>5</sup>

<sup>4</sup> Taenzer AH et al. *Anesthesia Patient Safety Foundation Newsletter*. 2012. <sup>5</sup> McGrath SP et al. *The Joint Commission Journal on Quality and Patient Safety*. 2016 Jul;42(7):293-302.

# How to Configure Your Patient SafetyNet

## Choose Your Care Areas and Components

- > Number of Beds to Monitors
- > Number of Views in Each  
(500 point-of-care devices and 100 View Stations and Replica applications)



Patient SafetyNet View



Patient SafetyNet Appliance or Virtual Machine

## Choose Your Patient Monitors



Root with Radius-7



Root with Radical-7



Radical-7

## Leverage Your Existing IT Infrastructure

### Wireless Configuration Support

- > IEEE Standard: 802.11 a, b, g
- > Encryption: TKIP, AES

### Wired Configuration Support

- > Ethernet: Standard IEEE 802.3

## Network Requirements

- Network Availability: greater than 99.9%
- Hardwired Latency: less than 30 ms
- Wireless Latency: less than 100 ms
- Packet Loss: less than 2%
- 802.11a Access Point Overlap: at least 20%
- 802.11b/g Access Point Overlap: at least 15%
- Minimum Signal Strength: equal to or greater than -67dBm
- Signal-to-Noise: equal to or greater than 20dB
- Wireless Security: Minimum of WPA-PSK

## Choose Your Notification Platform

Third-party Gateway (Allows third-party messaging with gateways that comply to TAPI.6/1.8 over ethernet or HL7)



Masimo Paging System



Replica



Third-party Gateway

## Connect to EMR Interface (Optional)

Patient SafetyNet incorporates the Masimo Iris Gateway™, which enables 2-way, HL7 based connectivity to clinical/hospital information systems



## Patient SafetyNet Specifications

### PATIENT SAFETYNET VIRTUAL MACHINE

CPU.....	Minimum Quad-Core, 1.8 GHz
Memory.....	Minimum 8 GB RAM
Storage.....	Minimum 512 GB HDD storage array
Input/Output Connection.....	USB (for virtual port)
Supported Hypervisors	
VMware.....	V5.x, V6.x
KVM.....	RHEL7

### PATIENT SAFETYNET APPLIANCE

Operating System.....	Linux
Communications.....	Redundant Gigabit 10/100/1000 BaseT Ethernet NICs
AC Power.....	Redundant Power Supplies (110 - 240 VAC, 50/60 Hz)
Anti-Virus.....	Not Applicable; Appliance Hardened

### PATIENT SAFETYNET VIEW

Operating System.....	Windows 10 Professional
Display.....	23-inch
Anti-Virus.....	User Provided

### DEVICE SPECIFICATION

Refer to Root, Radius-7, and Radical-7 Operator's Manuals



Caution: Federal (USA) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.

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