VISENSIA®

Version 4

Clinical
User Guide

Contents

Introduction

This guide contains all the information you need to operate Visensia.

Visensia is intended for use by trained medical personnel and assumes prior knowledge of the operation of multi-parameter patient monitors.

The day-to-day administration of the system is detailed in the Administration and Configuration User Guide **(Part No. 011-0710-LMAN).**

Visensia Overview

Visensia is an advanced physiological monitoring system that monitors vital signs to provide early warning of patient deterioration. Visensia has been designed as an accessory to standard patient monitors or medical information systems. Visensia is a client-server computer program, with the client running in a web browser as a Web Application. Visensia operates by forming an aggregate score of patient status based on five vital signs: Heart Rate, Respiratory Rate, Temperature, Blood Pressure, and Arterial Oxygen Saturation.

The aggregate score, the Visensia Index (VSI), is displayed on a scale of 0.0 - 5.0, with 0.0 representing the normal end of the scale and 5.0 representing extreme physiological deterioration. An audible and visual alert is provided when the Visensia Index (VSI) exceeds a defined threshold value.

Visensia Index (VSI)

The Visensia software calculates the Visensia Index (VSI) based on a non-linear combination of up to five vital sign parameters: heart rate, arterial oxygen saturation, respiration rate, temperature, and blood pressure.

The Visensia Index works by comparing the patient's vital signs against a model of normality for a population of patients from a similar environment. The Visensia Index represents a single measure of the patient's condition. The Visensia Index will update every time new physiological data is received for that patient.

Intended Use

Visensia with alert is intended to by Clinicians caring for non-paediatric patients routinely monitored by multi-parameter devices.

Visensia is indicated to receive data from multi-parameter devices, Electronic Medical Records (EMR) and Clinical Information Systems (CIS), and to provide the Clinician with a patient status index (Visensia Index) based on a weighted average of five vital signs: heart rate, respiration rate, temperature, oxygen saturation and blood pressure.

The Visensia Index is a single measure of a patient's condition and represents how different the patient's vital signs are with respect to normality enabling recognition of patient deterioration to help drive clinical management. When a Visensia alert has activated, it means that the Visensia Index has reached and/or surpassed the default threshold, highlighting the patient's condition to the clinician for an appropriate response.

Visensia is an adjunct to and is not intended to replace any part of the hospital's device monitoring or electronic data management systems.

> **Note:** Images used within this manual are provided for reference purposes only. Screens may differ based on system configuration and available parameters.

Safety Information

Users should read and adhere to all Warnings, Cautions and Notes listed here and in the associated sections throughout this manual.

> **Do not use Visensia before readings these instructions**

Warnings:

Intended Use

🔺 Visensia software must not be used outside of its intended use.

🔺 Visensia software is not for paediatric use.

🔺 Visensia is an adjunct to and is not intended to replace vital sign monitoring.

Alerts

🔺 When Visensia Alerts are silenced, there is no notification of a potentially clinically significant change in the patient's status. Observe the patient by other means when VSI Alerts are silenced.

Cautions:

Intended Use

🔶 Federal (U.S.) law restricts this system to sale by or on the order of a physician.

Alerts

🔶 Vital Sign Warnings are not intended to be used as a primary alert mechanism.

🔶 Vital Sign Warnings are not a replacement for any primary alerting systems or procedures already in place.

General

- As a Web application, Visensia is reliant on running via a compatible Web Browser with good network connectivity to ensure access to patient data.

  Verified Web Browsers are listed in the Admin and Configuration Guide [011-0710-LMAN].

- Your system administrator will provide you access to Visensia via a dedicated display or a web link for your computer or laptop.

- If you cannot access the system due to poor network connectivity, attempt to login via another workstation with known network connectivity.

Note: While browsers remain largely compatible between versions, full compatibility can only be guaranteed with the listed version.

Note: The various dashboards as used by Visensia have been designed to work best on a desktop computer or laptop with a minimum screen resolution of 1024 x 768.

Data Protection/ Privacy

Clinicians and other users of the Visensia system should be aware that, in collecting and recording patient names and data, they are responsible for complying with all applicable data protection and/or privacy laws and regulations.

Note: All patient names and data used throughout this guide are fictitious.

Symbols

| Symbol	Title	Description
Manufacturer	Manufacturer	Indicates the medical device manufacturer
LOT	Batch Code	Batch code so the lot or batch can be identified
REF	Catalogue Number	Catalogue number so product can be identified
Consult Instructions for Use	Consult Instructions for Use	Indicates the need for user to refer to instructions for use
Rx only	Prescription Use Only (USA only)	Device is prescription use only by a healthcare professional

Licensing

Visensia uses a licensing system that provides copy protection, security, algorithm functionality and allows registered clinical users to login and view monitored patients via the various dashboards.

An activated license determines how many beds can be monitored at any given time. It is important to ensure the Visensia system has enough licenses in place for all monitored beds.

If your system admin has not yet activated the software license, clinical users will not be able to login to view the dashboards.

If the activated licence has expired, or there are more beds monitored than adequately covered by a license, then the Visensia Index will not be calculated. A yellow border will be displayed – highlighting the Visensia Index cannot be calculated for the additional beds.
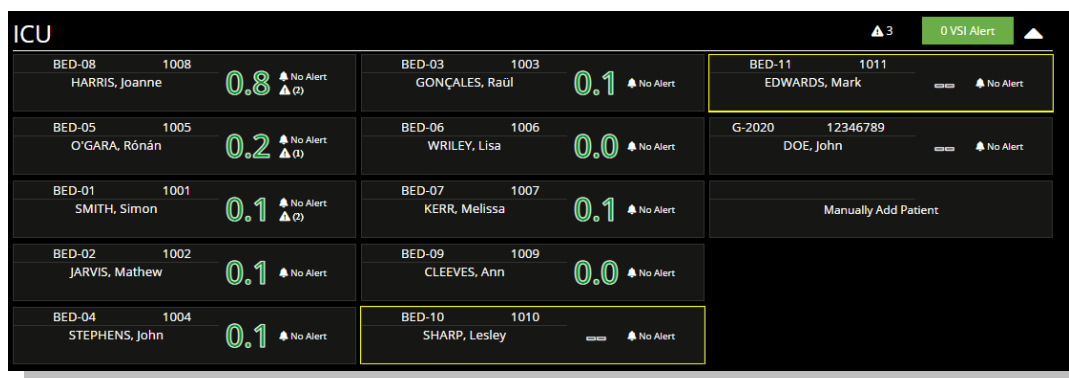
Note: Please inform your System Administrator if you are unable to access the system due to Licence Invalid message.

Note: Please inform your System Administrator if you notice the borders for some patient tiles displayed in yellow, indicating the existing Algorithm License requires a review as the VSI Index is not being computed due to a License issue.

Note: Algorithm functionality which is dependent on licensed regional requirements will be outlined during the installation and configuration process.

Trademarks

Visensia® is a registered name of OBS Medical.

Getting Started

Logging In

Depending on your organisations IT security policy, you will be issued login credentials.

Typically, you will receive a unique **Username** and **Password.**

Input your login credentials as required and press **Login**.

You should now be able to access the system and its various features as per the User Role assigned to you.

You can **Logout** of the system at any time by selecting the logout button, located top right of every dashboard.

Forgotten Password

If you cannot recall your Password, select **Forgot Password** link.

1. Type in your **Username** and press **Submit**

2. A password reset link will be sent to your registered email. Navigate to your email, select the reset password link, and follow the instructions as required

3. Using your new login credentials attempt to login again

Note: Depending on the systems configuration the "Forgot Password" link maybe disabled. You will need to contact your System Administrator to reset your password if this is the case.

Note: If you have forgotten your Username, you will need to inform your System Administrator to reset your account and password as per your sites IT protocols.

Users

User Roles

All system Users are allocated a **Role** which controls the level of access they have to the various functions and scope of the system as outlined Table 1: Roles / Functions Matrix.

Role	Scope
Administrator	Manage Installation, Licences, Inputs, Configurations, Users, Default Algorithm and Vitals Threshold settings. **(See Part No. 011-0710-LMAN for more information)**
Clinician	View and interact with the systems Clinical Dashboard and functions as configured by the Administrator.

	Roles	
Table 1: Roles / Functions Matrix	**Administrator**	**Clinician**
Functions		
System Administration:		
Manage System Licences	x	
Manage Users	x	
Manage Care Units	x	
Manage Staff assigned to Care Units	x	
Patient Information:		
View Visensia Index		x
View Vital Sign Data (Vitals / Trend Data)		x
View Notifications (VSI Alerts / Vitals Warnings)		x
VSI Alerts:		
Set Default VSI Alert Threshold	x	
Silence VSI Alert		x
Clear VSI Silenced Alert		x
Acknowledge Latched VSI Alert		x
Vital Signs:		
Manually Input Vital Sign Data		x
Set Default Vital Sign Upper / Lower Notification Thresholds	x	
Apply Patient Specific Vital Sign Upper / Lower Notifications		x
Set Default Vital Sign Timeouts	x	
Apply Patient Specific Vital Signs Timeouts		x
ADT Functionality (Standalone):		
Manually Admit Patient		
Manually Transfer Patient		x
Manually Discharge Patient		x
Edit Patient Demographic Information		x
Clinical Dashboard:		
View Single or Multiple Care Units – 'Acuity List' or 'My List'		x

Note: The above listed options are configured on a per user basis to suite existing workflows.

Note: Groups can be created to manage multiple Users with similar needs.

Dashboards

The Clinical Dashboard is configured according to the individual needs of the User. This section describes the Visensia Clinical Dashboard, its main components and features and various configuration options.

The image above is of the **Clinical Dashboard** with the **Drilldown Display fixed** and the options to **display** the **VSI Trend Graph, Patient Trend Arrow,** and **Vital Signs** enabled within the **Patient Tiles.**

1. Unit Selector	**9.** Manage Patient Tab
2. Current User, Audible Alert Settings, Patient List Options (Acuity / My List)	**10.** Visensia Index, Patient Trend Arrow
3. Patient List (Acuity List / My List)	**11.** Vital Signs Chart and Timeouts
4. Patient Information Tiles	**12.** Vital Sign Threshold Settings
5. VSI Alert Notice Box	**13.** Drill Down Toolbar
6. Drill Down	**14.** Admit Patient Button (Care Unit Specific)
7. Notifications Tab	**15.** Contributions or Anomaly Chart
8. Trends Tab	

Warnings	▲ Visensia software must not be used outside of its intended use
	▲ Visensia software is not for paediatric use
	▲ Visensia is an adjunct to and is not intended to replace vital sign monitoring

Note: As a Web application, Visensia is reliant on running via a compatible Web Browser with good network connectivity to ensure access to patient data.

Note: If you cannot access the system due to poor network connectivity, contact your administrator or attempt to login via another workstation with known network connectivity.
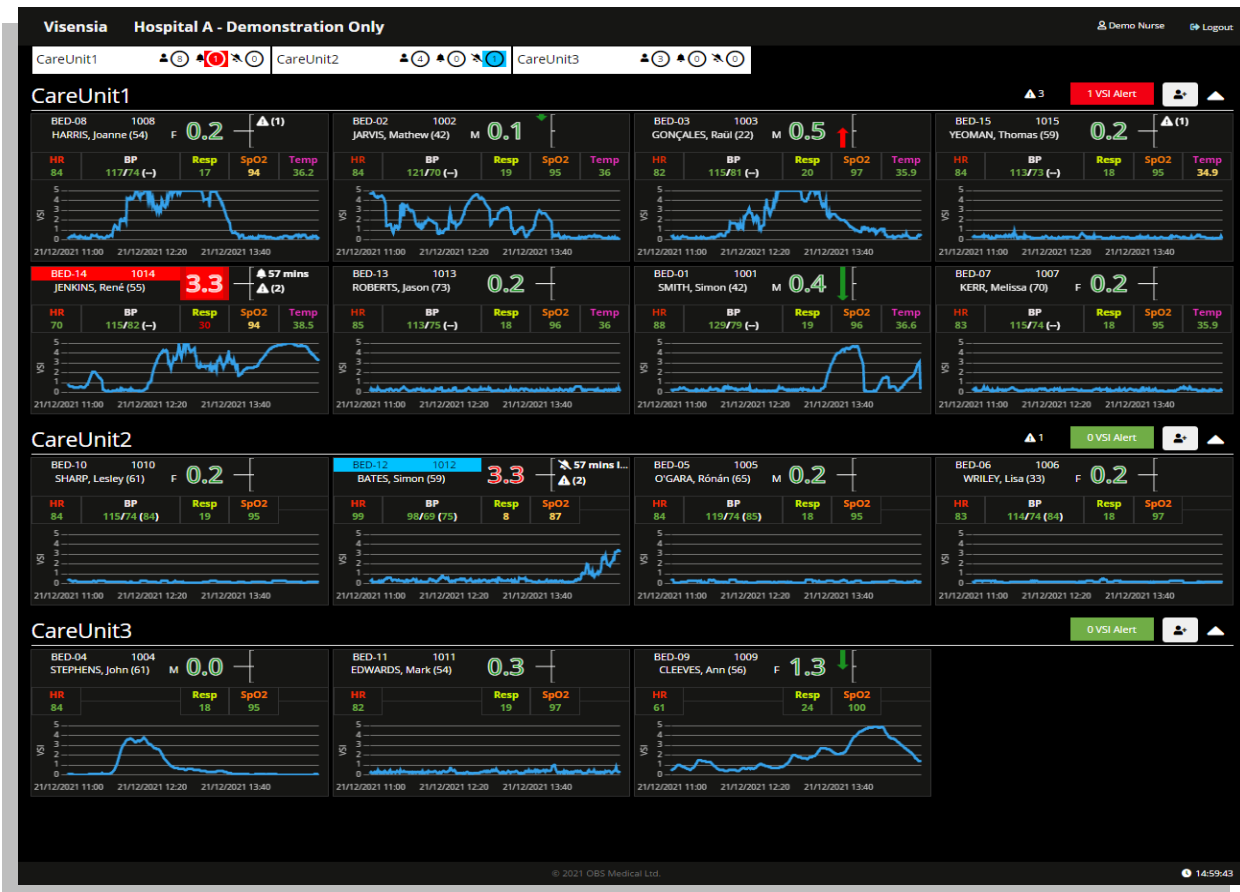
Patient List

The **Patient List** displays all received **Patient Information** as individual **Patient Tiles** and can be configured according to the individual needs of the User. **Patient Tiles** are grouped for the various Care Units assigned to you. There are two types of Patient Lists; **Acuity List** and **My List.**

Acuity List

The **Acuity List** displays all **Patient Tiles** for a Care Unit assigned to a Clinical User.

Care Units and their associated **Patient Tiles** can be **collapsed or expanded** using the **Unit Selector** or by using the **˄ or ˅** for each **individual Unit** to allow you to focus on a single Care-Unit at a time, or to have an overview of all monitored patients.

Selecting a **Patient Tile** will bring up more detailed information via the **Drill Down Display**.

- **VSI Chart**
- **Vitals Chart**
- **Notifications Tab**
- **Trends Tab**
- **Manage Patient Tab**

Note: The Acuity List can be configured to automatically rank patients according to the **VSI, Admittance Time** or **Bed.**

Note: A **scroll bar will automatically appear** for Users who have been assigned multiple Units with large amounts of monitored patients so that they can easily review patients and their VSI status.

Note: The image shown above is of the **Clinical Dashboard** with the **Drilldown Display set to fly in**.

My List

The **My List** allows you to display all Patient Information Tiles for Patients within the **Acuity List**, you have **starred** as your favourites.

- If Patients from Multiple Care Units are assigned to a User, they are not separated by Care Unit as seen in a Hospital Viewer Dashboard, but simply listed via the Patient List.

- The associated Care Unit name is detailed within the Patient Tile.

You can switch between **Acuity List** and **My List** by simply selecting the appropriate list from the **Patient List** drop down, accessed by selecting your **Username.** The active list is displayed next to your Username.

> **Note:** Patients that appear in "My List" are specific to the individual Clinical User, and cannot be seen within the "My List" of another Clinical User.
>
> **Note:** If enabled for your Hospital, the Unit Selector will always be positioned above the Patient List for both the Acuity List and My List.

Unit Selector

The **"Unit Selector"** displays the various **Care-Units assigned you** as a **Clinical User.**

When you first login, all assigned Care-Units within the Unit Selector will be pre-selected (**Active - White Background),** with the associated **Patient List** being expanded to display all **Patient Tiles.**

Clinical Users can **activate / deactivate**, which Care-Units they want expanded or collapsed within the Patient List, by clicking on the relevant Care-Unit within the Unit Selector.

The **number of patients assigned** to the Unit, along with any **active VSI Alerts or Silenced Alerts** for the Unit are always visible.

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		▲ Visensia is an adjunct to and is not intended to replace vital sign monitoring

Patient Tiles

The **Patient Tile** can be configured by your Administrator to display various components including:

- **Patient Information (Name, Age, Patient ID, Location)**
- Monitored **Vital Signs** and **Warning Notifications**
- Calculated **VSI Index, Patient Trend Arrow, VSI Trend Graph** and associated **VSI Alert Status.**

A **white border** will be displayed for a Patient Tile selected for viewing via the **Drill Down Display**.

The **Patient Tile** will change colour according to the **VSI Alert Status**. The Vitals Warning Icon will only appear if a defined Vital Sign Threshold is breached.

Depending on the VSI Index and alert status the Patient Tile will appear as follows:

Example 1 – No VSI Alert	
	Patient Location - Room: **CCU** Bed: **BED-02**
	Hospital / Patient ID: **1002**
	Patient Name: **Mathew Jarvis**
	Age: **43** Gender: **M**ale
	All vital signs monitored and current values. **Warning Notifications (1)** for **Low SpO2.**
	VSI, No Alert Status and VSI Trend Graph. **0.3** with no **Active VSI Alert.**

Example 2 – Active VSI Alert	
	Patient Location - Room: **14** Bed: **BED-06**
	Hospital / Patient ID: **1006**
	Patient Name: **Lisa Wriley**
	Age: **34** Gender: **F**emale
	All vital signs monitored and current values. **Warning Notifications (1)** for **Low Temp.**
	VSI, Alert Status and VSI Trend Graph. **3.6** with an **VSI Alert Active** for **3 Minutes.**

Example 3 – VSI Alert Silenced	
	Patient Location - Room: **CCU** Bed: **BED-02**
	Hospital / Patient ID: **1002**
	Patient Name: **Mathew Jarvis**
	Age: **43** Gender: **M**ale
	All vital signs monitored and current values. **Warning Notifications (2)** for **High Respiration** and **Low SpO2**
	VSI, Alert / Silence Status and VSI Trend Graph. **1.6** with **Silence Status remaining** for **40 Minutes.**

VSI Warning Notification Icons	
🔔	**Red Fill – Bell Icon,** Active VSI Alert and duration of active VSI Alert in **HH:MM:SS.**
❗	**Red Fill - Latched Alert Icon,** How long in **HH:MM:SS** since an Active VSI Alert has dropped below the High Threshold Limited, without being Silenced by a Clinical User.
🔕	**Blue Fill – Silenced Bell Icon -** Silenced VSI Alert and the time remaining before current setting expires in XX Mins.
Border Information	
	White Border – Patient Selected for **Drill Down Display**
	Yellow Border – Algorithm License Expired or Exceeded Use Limit
(--) Is displayed when there is no value to be displayed	

Note: Visensia requires a minimum of three vital signs to calculate the Visensia Safety Index - VSI. **Grey Marks (- -)** will be displayed when the system is unable to calculate a Visensia Safety Index.

Note: Patient Name and Patient ID can be configured to be hidden or displayed according to organisations policy.

Note: Users with the authority to **"Input Patient Information"** will still be able to see the Patient Name and Patient ID from the **Manage Patient Tab** even if the PHI information is configured as hidden on the Patient List and Drilldown for that User.

Warnings	▲ Visensia software must not be used outside of its intended use
	▲ Visensia software is not for paediatric use
	▲ Visensia is an adjunct to and is not intended to replace vital sign monitoring

Drill Down

The **Drill Down** display can be a **Fixed area** next to the Patient List or a **Fly In display** that is activated when a **Patient Tile** is selected. The **Drill Down display** will automatically populate when a **Patient Tile** is selected from the **Patient List.**
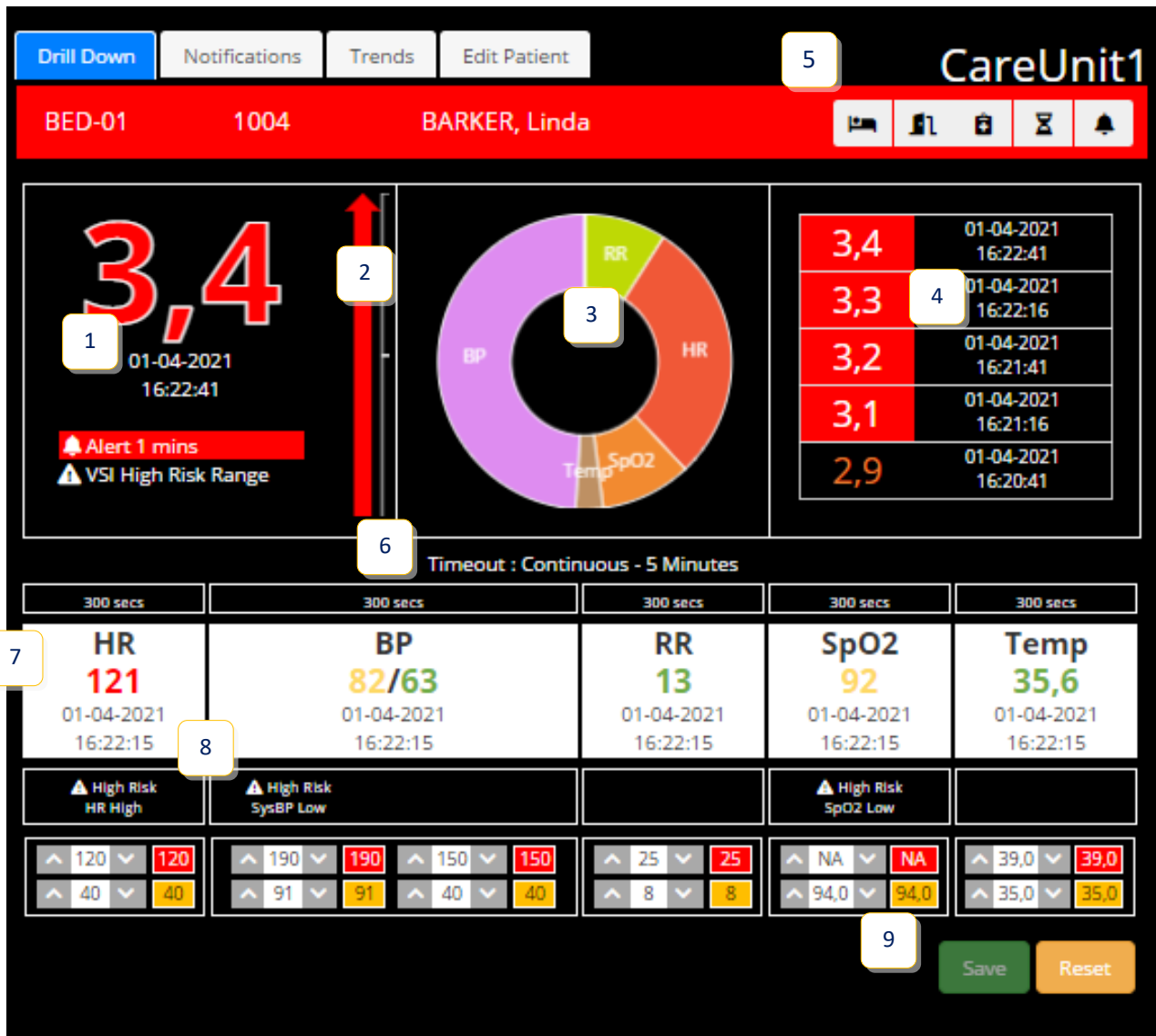
1.	**VSI Index and Alert Status**	2.	**Patient Trend Arrow**
3.	**VSI Contributions Chart or Anomaly Chart**	4.	**VSI History Table**
5.	**Drill Down Tool Bar**	6.	**Current Vital Sign Timeout for VSI**
7.	**Vital Sign Chart**	8.	**Vital Sign Threshold Warnings**
9.	**Vital Sign Threshold Options**		
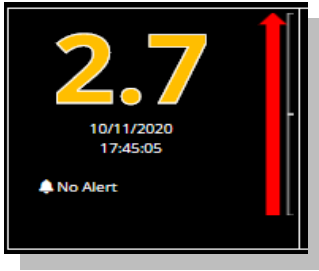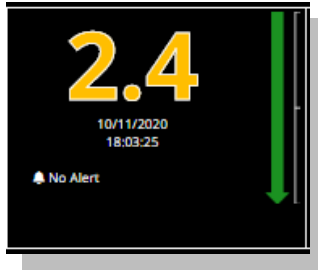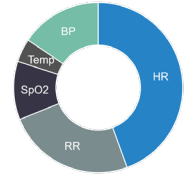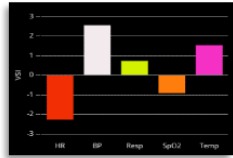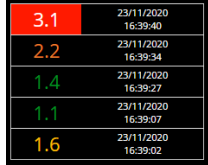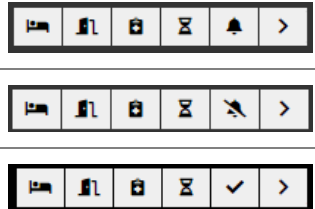
The **Drill Down** display provides additional information when reviewing a patient using the following tabs**:**

- **Notifications Tab**
- **Trends Tab**
- **Manage Patient Tab**

Note: Visensia dashboards do not support zoom as part of the web application. Zooming may distort or hide certain features so display should be left at 100%.

![Visensia logo]

Drill Down Tab

The Drill Down provides a snap overview of the patient and is made up of the following:

o **VSI Index**

The Visensia Index is displayed on a scale of **0.0 - 5.0**, with 0.0 representing the normal end of the scale and 5.0 representing extreme physiological deterioration, along with the date and time of the calculation.

The VSI Index can be segmented in to High, Medium, Low and Normal thresholds with an associated colour for each threshold.

o **Patient Trend Arrow**

The PTI is an index, generated to measure deterioration (Red Arrow) or improvement (Green Arrow) in patient condition, based on the VSI, over a defined period of time. The larger the arrow the greater the change during the defined time period.

| Deterioration – Red Arrow | No Change | Improvement – Green Arrow |

o **VSI Contributions Chart**

Shows how much each current vital sign has contributed to the total amount of the Visensia Index; the larger the pie-slice the greater the contribution of that vital sign.

o **VSI Anomaly Chart**

Shows how much each individual vital sign has deviated from the mean value in the training data set. An VSI Alert occurs either when one vital sign is approximately ± 3 standard deviations from its normal value, or when two or more vital signs vary from normality by a smaller amount.

Either the Contributions or the Anomaly Chart are displayed within the Drill Down display, as configured by your Administrator.

o **VSI History Table**

Shows a list of the last five VSI calculations along with the date and time for each calculated risk index.

o **Drill Down Tool Bar**

The drill down tool bar allows you carry out various functions via the main dashboard by displaying additional dialogue box for the selected function.

	Transfer Patient	Select the Transfer Patient icon to reassign the selected patient to a new location within the Visensia System.
	Discharge Patient	Select the Discharge Patient icon to discharge the selected patient from the Visensia System.
	Manual Observations	Select the Manual Observations icon to manually document a set of vital sign observations for a selected patient.
	Vital Sign Timeouts	Select the Vital Sign Timeout icon to manually adjust the selected patients vital sign timouts from a configured selection to suite the patients type of monitoring. i.e. Continuous, Episodic or Hybrid.
	VSI Alert	Select the VSI Alert icon to either Silence an active VSI Alert, or to clear an Silence status for a patient as required.
	Silenced Alert	Select the VSI Silenced Alert icon to either clear the Silenced Alert status applied, or to update it with a different time period.
	Acknowledge Latched Alert	Select the Acknowledge Latched Alert icon to clear an VSI Alert status that was not silenced, before the VSI dropped below the High Threshold limit set. Only visible when Latched Alert status is active.
	Close Drilldown	Select the Close Drill Down icon to return to the Patient List to review another patient as required. Only visible when the Drill Down is active.

o **Vitals Chart**

Displays the current vital signs for the patient, their values and the date and times at which the vital signs were recorded.

- **Vital Sign Warning Notifications**

    The vital sign warning notifications are displayed below the Vitals Chart

- **Vital Sign Warning Thresholds (Unit & Patient Specific)**

    The Upper and Lower vital sign warning thresholds area displayed below the Vitals Chart

Note: The **Vital Sign Warnings** are explained in more detail via **Vital Signs Warning section**.
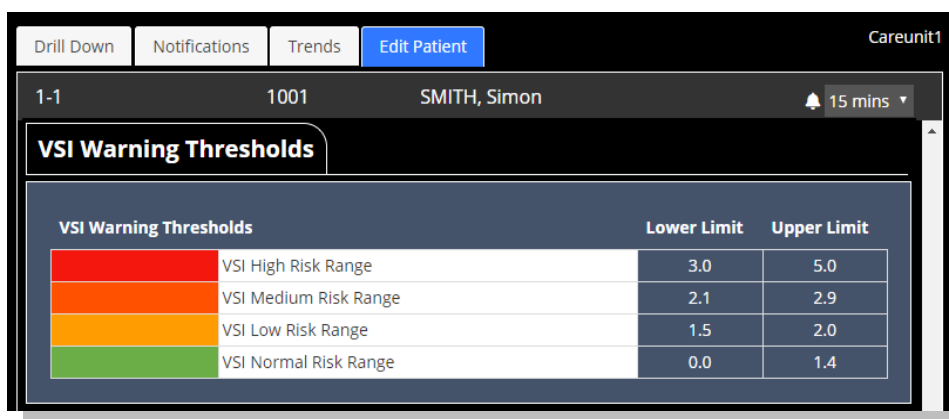
VSI Warning Thresholds

The **VSI** is **Colour Coded** according to the **VSI Warning Threshold Ranges** as configured by your Administrator for each monitored Care Unit. Each threshold range can be **enabled or disabled** as required.

The thresholds provide a clear indication of a patient's risk of deterioration. The default settings are agreed and configured during installation and set-up according to clinical guidance and hospital protocols.

Enabled	VSI Warning Thresholds		Lower Limit	Upper Limit
✓		**High Risk Range**	3.0 🔔	5.0
✓		**Medium Risk Range**	2.1	2.9
✓		**Low Risk Range**	1.5	2.0
✓		**Normal Risk Range**	0.0	1.4

- A **VSI Alert** is generated when the **lower limit of the VSI High Risk Range Threshold** is reached or exceeded.

You can view the Care-Units **VSI Warning Thresholds** via the **Drill Down display – Manage Patient TAB.**

> **Note:** Any rapid increase in the VSI as highlighted by the Patient Trend Arrow, across Normal, Low and Medium threshold ranges, warrants further investigation and review of the patient's status at the bedside.
>
> **Note:** The VSI Warning Thresholds for High, Medium, and Low risk can only be amended by your Administrator.
>
> **Note:** How the **VSI Alerts** and **VSI Warning Thresholds** are responded to, are defined by your own Organisation and Care Units protocols.

VSI Alerts

All dashboards will provide a **visual alert** when the **Visensia Index equals or exceeds** the defined **VSI High Risk Warning Threshold.**

- The **Patient Information Tile border** will begin to **flash red**.
- The VSI Alert status will change to an VSI Alert Icon and display how long the **Alert Status has been active for**.
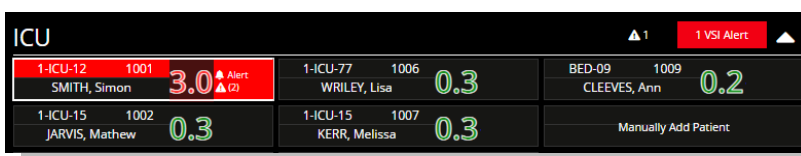
Silence a VSI Alert

Silencing an VSI Alert acknowledges a clinical / technical response to the underlying cause of the VSI Alert has been carried out according to defined hospital protocol.

To silence an VSI Alert

1. Select the **Patient Information Tile** with the **Active VSI Alert**

2. Using the **Drill Down** display – select the **VSI Alert Icon** from the **Drill Down Tool Bar**


VSI Alert Icon

3. A dialogue box will be displayed showing you a list of available time periods to Silence the VSI Alert for
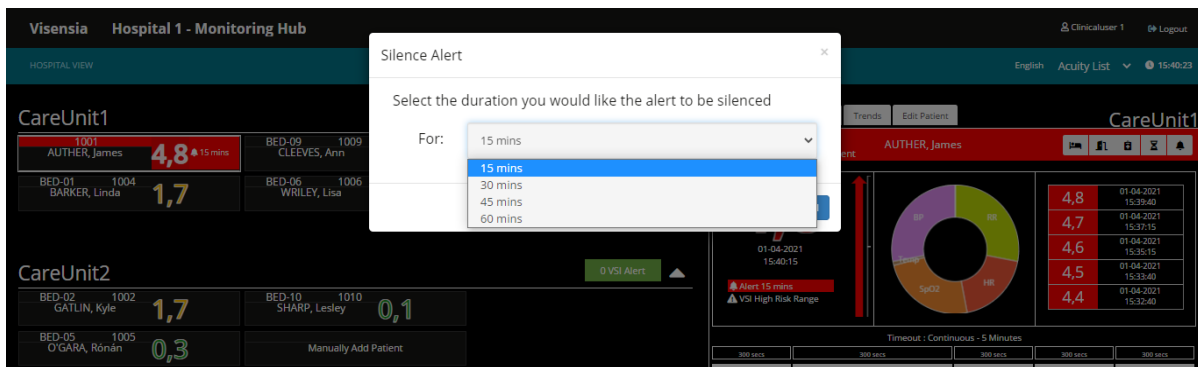
- The default Silence Options are:

15 Minutes	30 Minutes	45 Minutes	60 Minutes

4. Select the required time interval for the Silence Alert, and press the **Silence button** to apply the settings

5. The **Patient Information Tile** border will change from an **Alert Status to the Silence Alert Status** indicating the VSI Alert has been **Silenced**

6. The **Time Stamp** will now show time remaining, before the **Silenced Alert will time-out** e.g. 50 Minutes
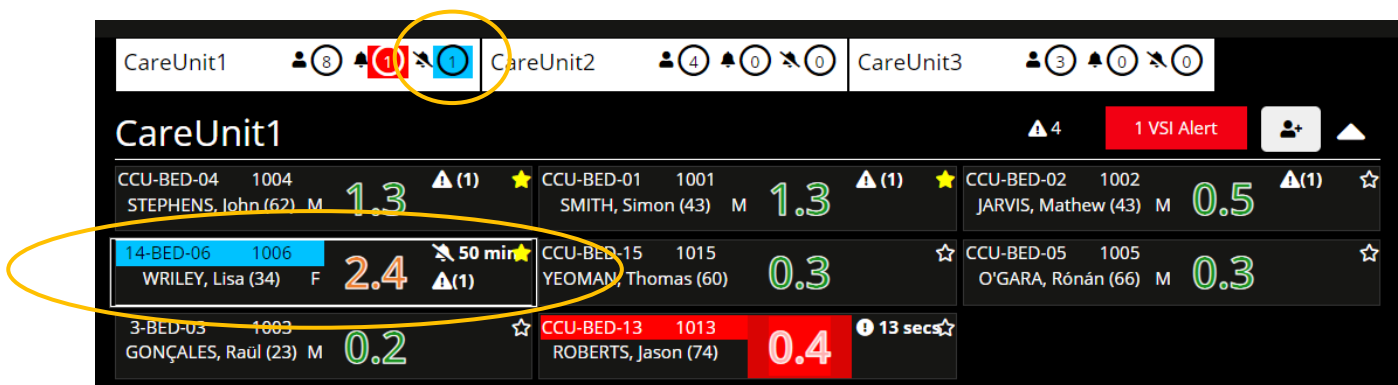
Warnings	⚠ When Visensia Alerts are silenced, there is no additional notification of a potentially clinically significant change in the patient's status. **Observe the patient by other means when VSI Alerts are silenced.**

Note: The **Unit Selector** will update to show the number of Active Silenced Alerts there are for the Care Units assigned to you.
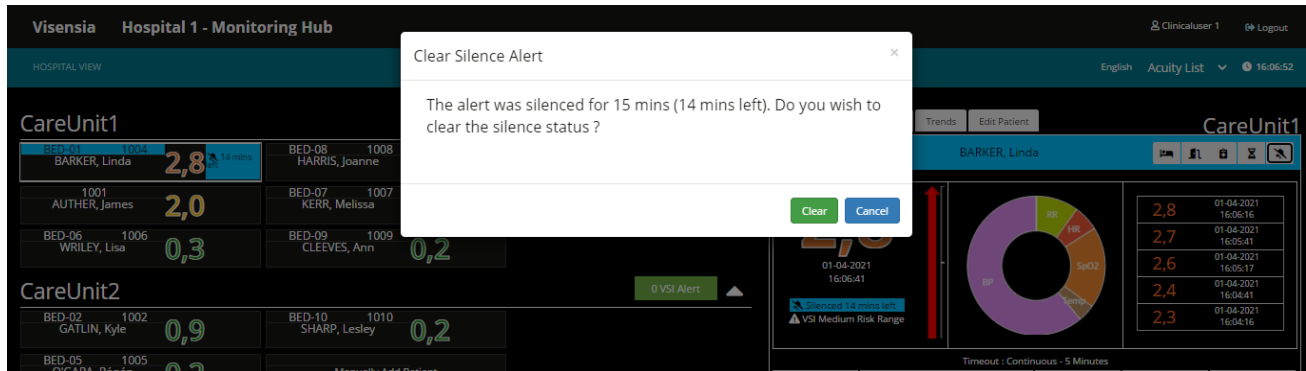
Clear a VSI Silenced Alert

Using the **Drill Down** display

1. Select the **VSI Alert Icon (Silenced)** from the **Drill Down Tool Bar**

VSI Alert Icon (Silenced)

2. A dialogue box will be displayed confirming you wish to clear the silence status.


3. Select the **Clear** button

4. The **Silenced Alert Status will now be removed**

Note: If the **VSI** falls **below the defined High Threshold Lower Limit value**, then the VSI Alert Status (both Visual and Audible) is automatically cleared from the Patient List and Drill Down Tab.

**Note:** The actions of Silencing and Removing a Silenced Alert are documented via the Notifications Table.

VSI Latched Alerts - Acknowledgment

The system can be configured to Latch VSI Alerts to ensure any High Threshold Breaches of the VSI is Acknowledged by a Clinical User if they subsequently drop below the threshold before the original VSI Alert is silenced.

Latched Alert Icon

Acknowledge - VSI Latched Alert Icon
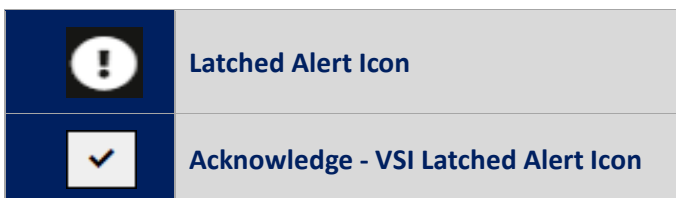
Latched Alerts appear the same as an VSI Alert, however instead of **"Silencing"** the alert, you will need to **"Acknowledge"** an VSI Alert has occurred in the past, when reviewing the patients' overall condition and risk of deterioration – **VSI Trend Graph.**

Once acknowledged the **Patient Tile** will revert to the current Threshold Status and colour.
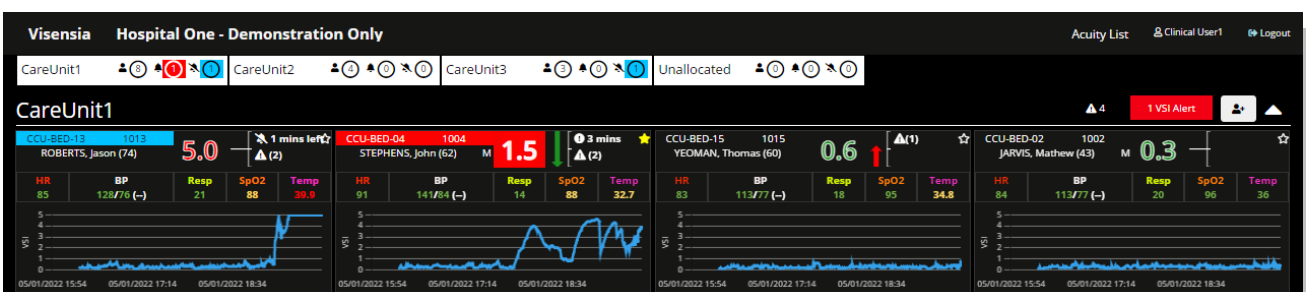
VSI Alert Notice Box

Each Care Unit listed has an associated '**VSI Alert Notice Box'**.

This allows caregivers to quickly identify any **VSI Alerts,** even if the Care Unit in question has been collapsed while reviewing patients in another Care Unit.

Trends Charts

The Trend Chart shows, in graph form, a history of the selected patient's **VSI** and a history of the values for each monitored **Vital Sign**.

- You can configure the system to display the various **Trend Graphs** and associated **Upper/Lower Threshold limits** for the **VSI** and **Monitored Vital Signs** using the **Trend Graph Configuration Icon**. ⚙

  - By unselecting a vital sign or even the VSI from the Trend Graph Configuration settings, the graphs will be redrawn, and all unselected items will be hidden / removed.

  - You can select the items again for display within the trend graph as required.

- You can temporally change the **time interval for the historic graphs** by clicking the options available.

Trends	4hr	8hr	12hr	24hr	48hr	72hr

- You can expand the trend graph to full screen using the **expand graph icon [ ]**
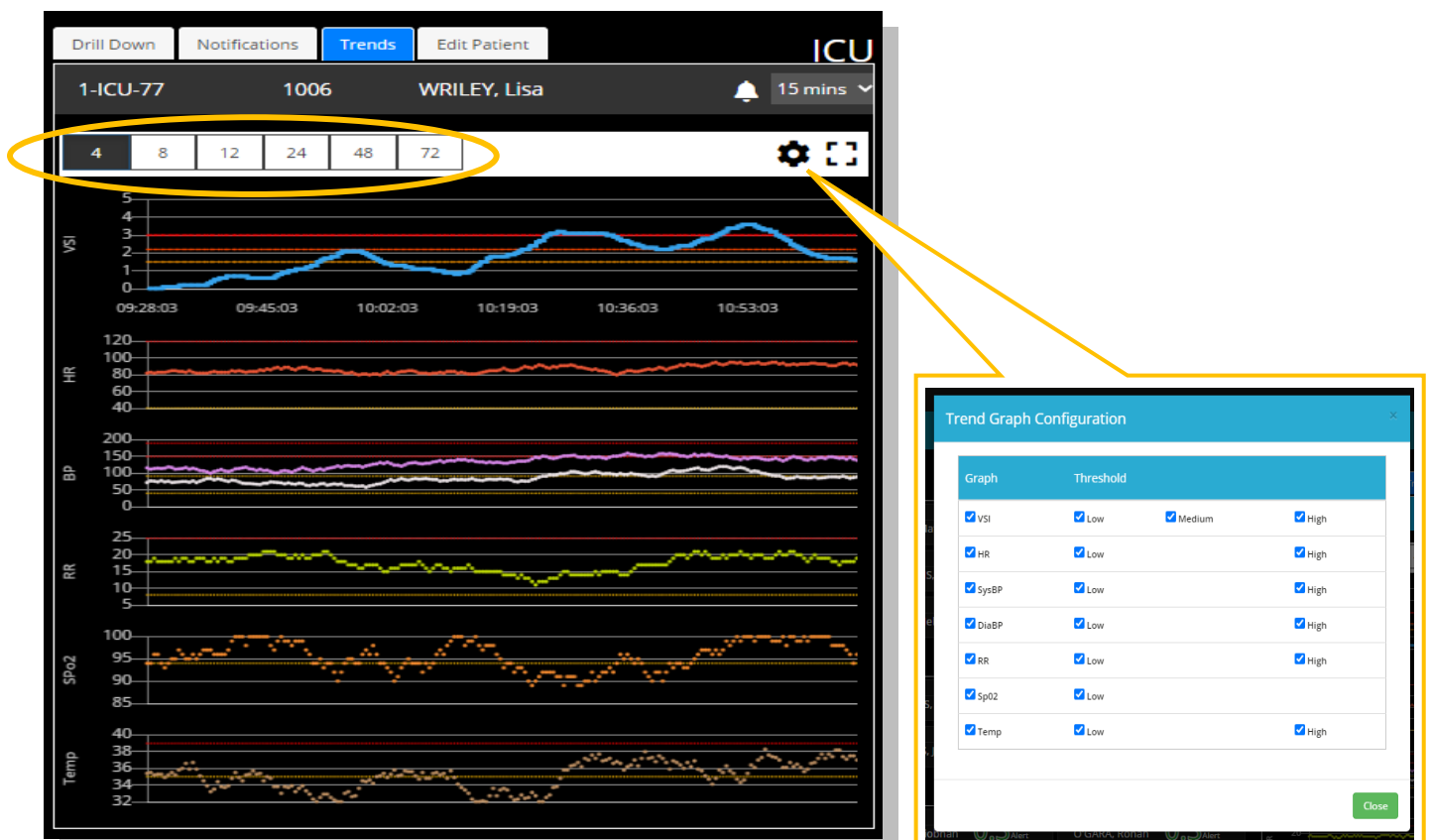
**Panning and zooming** is available on the both the VSI and Vitals graphs.

You may use these features to alter the display to focus on regions of the graph. You will need a mouse and keyboard to use this functionality.

- ▪ **To Pan**
    - ○ Using your mouse, **left click on the graph and drag the image** (Left or Right) and release when the display shows the portion of the graph that is of interest.

- ▪ **To zoom**
    - ○ Using your keyboard, **hold down the Alt key** and using the mouse, **left click on the graph and drag the cursor to draw a grey box** around the area into which you would like to zoom. Repeat as required until the display shows the portion of the graph that is of interest.
    - ○ Select one of the default time intervals to reset the graph
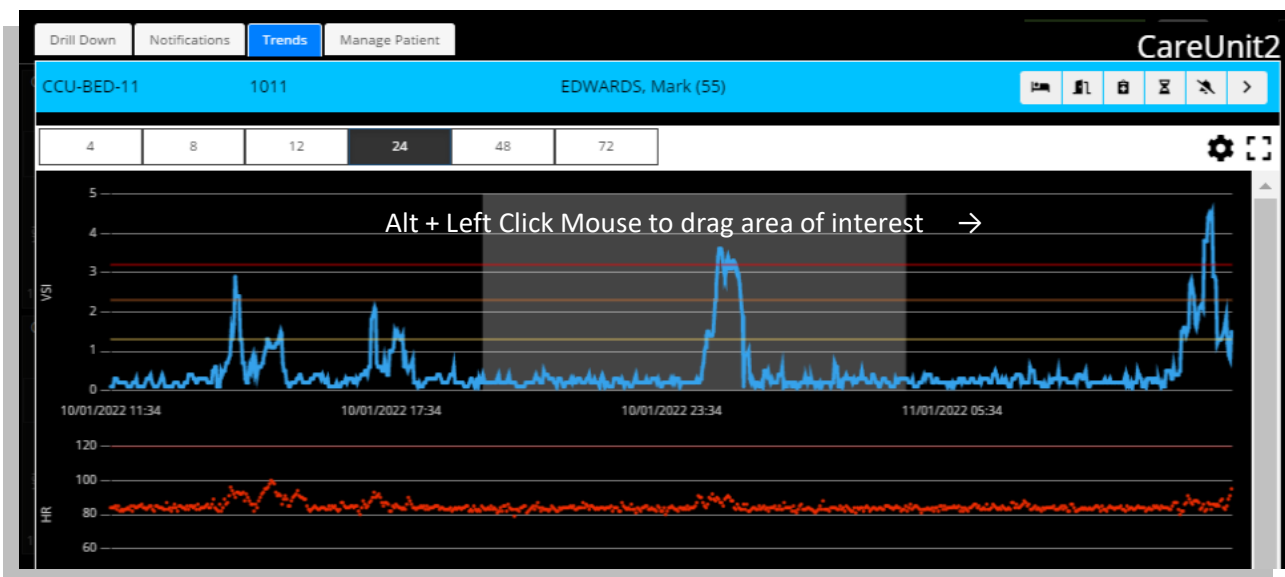
Hovering your mouse pointer over individual trend graphs will reveal the values for each recorded vital for the date / time.
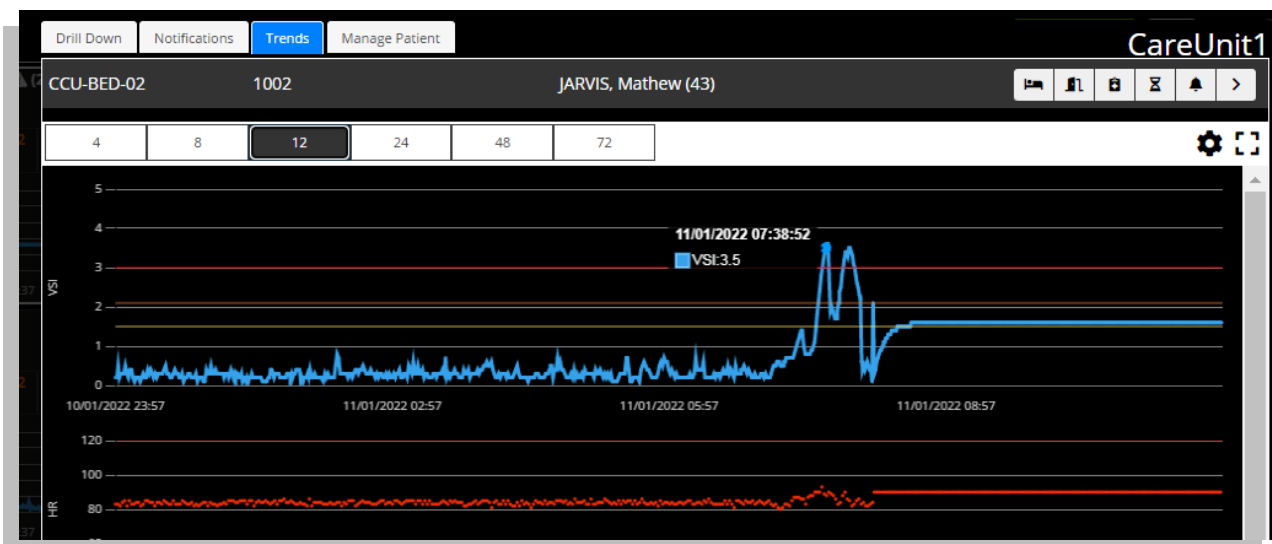
> **Note:** The available time intervals displayed are defined by your Hospital Admin.
>
> **Note:** Changing the time interval will cause the selected Trend Chart to be redrawn as required. The graph will also be redrawn every minute to include any additional vital sign data received.

Vitals Chart

The **Vitals Chart** displays the current vital signs for the patient, their values, and the times at which the vital signs were recorded.

Not all vital signs may be shown, depending on how Visensia has been configured.

The associated vital sign data is color coded according to the Care Units default **Vitals Warning Thresholds**.

🟥	**Upper Limit Warning Threshold** has been exceeded
🟧	**Lower Limit Warning Threshold** has been exceeded
🟩	Vital sign is between the Upper and Lower Limit Warning Thresholds

How long a Vital Sign is displayed via the chart and used by the Algorithm when calculating the Visensia Index, is highlighted in the Timeout box above the Vital Sign. In this example 300 seconds or 5 Minutes.
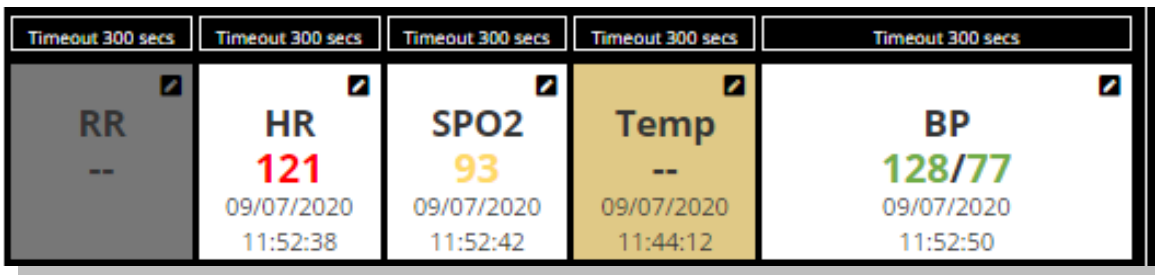
In addition, the box for each vital sign will change color to indicate whether data for the configured vital sign has ever been received in the past or stopped (timed out) for whatever reason.

	Grey – No data ever received for this vital sign.
	Stone – Data received in the past but has now stopped.
	White – Data is currently being received for associated vital sign.
– –	**No available data -** Indicating that there is no valid data available, for example, if the vital signs have not been entered, or the vital sign has timed-out for consideration when calculating the current Visensia Index

You should always investigate the underlying causes as to why an expected vital is not being received or has stopped. Missing vital signs can affect the sensitivity and specificity of Visensia Index and Alerts.

More information about Timeouts and how to change them can be found in the **Vital Sign Timeout Settings section.**

Cautions	⚠️ Vital Sign Warnings are not intended to be used as a primary alert mechanism.
	⚠️ Vital Sign Warnings are not a replacement for any primary alerting systems or procedures already in place.

Vital Sign Warnings

Visensia can be configured to display warnings when monitored vital signs are outside of the systems defined thresholds. These warnings are indicated on the dashboard as a **visual warning icon** and **text indicator** within the **Patient List** and **Vitals Chart** as follows:

Vital Sign Warning Icon:	⚠
Vital Sign Warning Text:	**High Risk**; "Vital Sign" High or Low

The **values** within the Vitals Chart will be colour coded according to which threshold has been breached. The defined thresholds are displayed below the Vitals Chart for each of the configured Vital Signs.

▲	Patient Specific Value (120)	▼		Value (120)	Care-Units Default **Upper Limit**
▲	Patient Specific Value (40)	▼		Value (40)	Care-Units Default **Lower Limit**

The image below highlights Heart Rate breaching:

1. The Upper Threshold (120)

2. SpO2 breaching the Lower Threshold (94.0)

Vital Sign Warnings information will be displayed as long as the vital sign remains outside of the defined upper / lower threshold limits.

Note: Which Vital Sign Warnings are shown, is configurable by your Hospital Administrator.

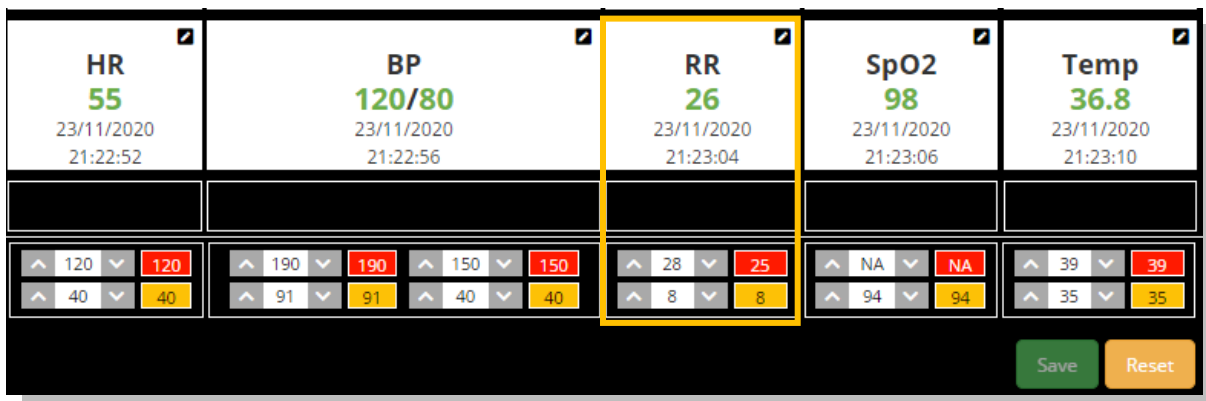| Cautions	⚠ Vital Sign Warnings are not intended to be used as a primary alert mechanism
	⚠ Vital Sign Warnings are not a replacement for any primary alerting systems or procedures already in place

Adjusting Vital Sign Warning Thresholds

The systems default vital sign warnings thresholds can be adjusted on a per patient basis.

This can be actioned via the **Drill Down** display.

1. Adjust the **Upper** and **Lower Patient Threshold Limits** as required using the **^ or ˅** buttons next to each Patient Specific Value.

2. **Hold down** the **^ or ˅** buttons to rapidly change the threshold units until the new threshold limit is reached.

▲	Patient Specific Value (26)	▼		Value (25)	Care-Units Default **Upper Limit**
▲	Patient Specific Value (8)	▼		Value (8)	Care-Units Default **Lower Limit**

The image below highlights **the Patient Specific Upper Threshold for Respiration Rate** has been amended.

3. Select **Save**

   ▪ The **Drill Down** display will now update, and your new settings should be applied to the **Vitals Chart**. Previously triggered warnings should no longer be displayed.

Vital Sign Warnings will only trigger if the monitored vital sign breaches the newly defined patient specific threshold.

If you need to change the patient's thresholds back to the Care-Units default settings, complete steps 1 and 2 for the individual vital sign.

You can select the **Reset Button** to **re-apply all the Units default thresholds**.

> **Note:** The vital sign warning indicators are not intended to be used as a primary alert mechanism. It is not a replacement for any primary alerting systems or procedures already in place.
>
> **Note:** Remember to use the same units as the default threshold notification i.e. °C or °F for Temperature.

Cautions	⚠ Vital Sign Warnings are not intended to be used as a primary alert mechanism
	⚠ Vital Sign Warnings are not a replacement for any primary alerting systems or procedures already in place

Notifications Chart

The Notification Chart details all historic VSI Alerts, Vitals Warnings and any interventions or changes made by Users.

1. Using the **Drill Down** display – select the **Notifications TAB.**

   A list of all logged VSI Alerts and Vital Sign Warnings is now displayed.

2. Filter the Notifications Table by selecting the option required and press **OK**
   - Algorithm Notifications (VSI Alerts, Threshold Breaches)
   - Vital Notifications (Threshold Breaches)
   - Patient Notifications (Admit, Transfer)

Unit	Location	Date	Type	Details	Duration	User
Unallocated	BED-23	11/09/2020 07:18:03	SysBP LOW	88.0	00:00:59	Super Admin
Unallocated	BED-23	11/09/2020 07:16:02	DiaBP LOW	37.0	00:05:59	Super Admin
Unallocated	BED-23	11/09/2020 07:08:00	SpO2 LOW	93.0	00:07:02	Super Admin
Unallocated	BED-23	11/09/2020 07:06:02	DiaBP LOW	37.0	00:09:00	Super Admin
Unallocated	BED-23	11/09/2020 07:04:02	SpO2 LOW	93.0	00:02:00	Super Admin
Unallocated	BED-23	11/09/2020 06:29:05	SysBP LOW	89.0	00:47:57	Super Admin
Unallocated	BED-23	11/09/2020 06:26:03	SysBP LOW	90.0	00:00:59	Super Admin
Unallocated	BED-23	11/09/2020 06:24:01	SysBP LOW	88.0	00:01:01	Super Admin
Unallocated	BED-23	11/09/2020 06:06:02	SysBP LOW	87.0	00:05:00	Super Admin
Unallocated	BED-23	11/09/2020 06:03:03	SysBP LOW	90.0	00:00:59	Super Admin

Note: Vitals Warnings (Threshold Breaches) mirror the default settings configured on the primary device - patient monitor used to collect the patient's vital signs.

Note: The abnormal vital warning indicators as displayed within the Notifications Tab are not intended to be used as a primary alert mechanism. It is not a replacement for any primary alerting systems or procedures already in place.

Cautions	⚠ Vital Sign Warnings are not intended to be used as a primary alert mechanism.
	⚠ Vital Sign Warnings are not a replacement for any primary alerting systems or

|		procedures already in place.

Manually Input Vital Sign Data

Vital sign data can be manually inputted for a selected patient as part of a routine observation round, or to supplement a patient monitoring device / solution that does not support that vital sign.

1. Using the **Drill Down display** – select the **Add Vitals Icon** from the **Drill Down Tool Bar**

Add Vitals

2. A dialogue box will be displayed, with a list of Vital Signs that can be inputted.
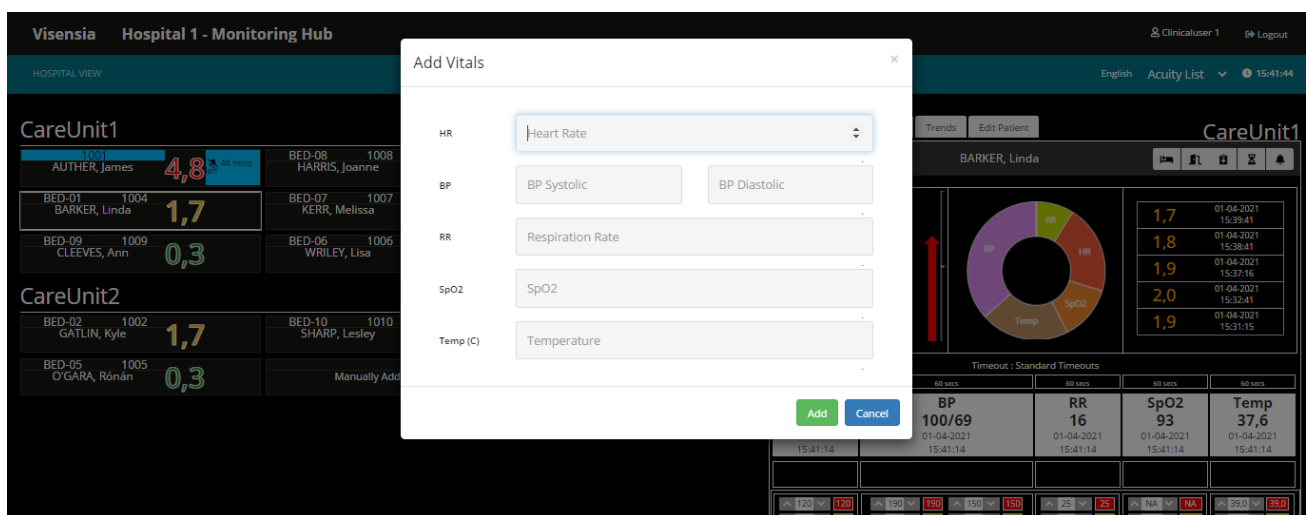
3. Input the value for each vital sign observed, and press **Add** button.

Note: There are validation checks to ensure the value inputted does not exceed the systems expected Maximum and Minimum amounts for the inputted vital sign. You will be required to input an expected value before being able to select Add.

4. The dialogue box will disappear, and the updated Vitals Chart will now be updated to display the observed Vital Sign values and associated Timestamp.

5. The **VSI** and **Contributions Chart** should update reflecting the effect of the manually updated vital on the VSI.

Note: You will only be able to enter a patient's vital signs manually if your system has been configured to enable you to do so.

Note: Any manually entered vital signs will be overridden as soon as new vital sign data is received from a configured patient monitoring system that is outputting continuous vital sign data.

Vital Sign Timeout Settings

Preconfigured Vital Sign Timeouts are available to apply to patients as part of your Units monitoring needs.

Timeouts ensure the last inputted Vital Sign is within a defined time window, before it is used by the Algorithm to calculate the Visensia Index.

Use the Vital Sign Timeout icon to manually adjust the selected patients vital sign timouts from a configured selection to suite the patients type of monitoring.

Example TimeOuts:

Option	Monitoing Type	Timeouts Applied
1.	Continuous Monitoring	- All vitals set to time out after 60 Seconds
2.	Episodic Monitoring	- All vitals set to time out after 4 Hours
3.	Hybrid Monitoring (Mix of Continuous & Epesodic Vital Signs)	- Some Vitals set to time out after 5 minutes - Some Vitals set to time out after 1 hour

1. Using the **Drill Down display** – select the **Vital Sign Timeout Icon** from the **Drill Down Tool Bar**

> 🕓 **Vital Sign Timeouts**

2. A dialogue box will be displayed, with a list of pre-configured Timeout Groups

3. Select the **appropriate Timeout option** for the monitored patient

4. Select the **Change button** to apply the new Timeout setting

5. The dialogue box will dissapear and the Vitals Chart will be updated to reflect the new TimeOut option chosen.

Cautions	⚠️ Vital Sign Warnings are not intended to be used as a primary alert mechanism
	⚠️ Vital Sign Warnings are not a replacement for any primary alerting systems or procedures already in place

# Manually Admitting a Patient to a Care-Unit

Patients should automatically be admitted to a Care-Unit as part of an configured ADT set-up.

However, only **Users assigned** the **Hospital Viewer Role**, have the additional functionality to **Manually Add Patients (Admit)** to a Care-Unit via the Dashboard, if this feature has been enabled for them.

To **Manually Admit a Patient** as an **Hospital Viewer**:

1. Select the **Admit Patient** button from the associated Care-Units Patient List
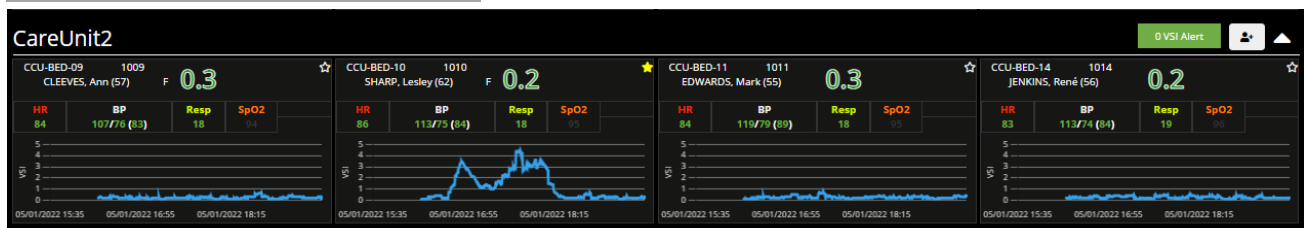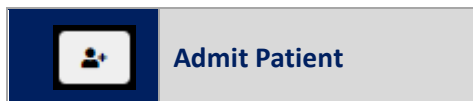
2. The **Admit Patient** display is now shown for the Care-Unit selected

3. Enter the **Patient ID, First Name, Last Name, Date of Birth (DOB), Care Unit, Room No#** and **Bed Location No# as required** and select **Save**

4. The patient will now be added to the Care-Unit and should be visible in the **Patient List** for the Care-Unit

5. You can now **manually add vitals** for the patient via the **Drill Down Display** to calculate the VSI as required

Note: If ADT is configured for the Care-Unit in question, all ADT information matching **Patient ID** and **Patient Name** received will automatically override any manually entered patient information such as **Location** and **Vital Sign Data.**

Transferring a Patient to a different Care-Unit

Patients should automatically transfer between Care-Units as part of an configured ADT set-up.

However if you wish to **Manually Transfer** a patient to a different Care-Unit then action the following:

1. Select the Patient from the **Patient List** you wish to **Transfer**

2. Using the **Drill Down display** – select the **Transfer Patient Icon** from the **Drill Down Tool Bar**

Transfer Patient

3. A dialogue box will be displayed, with options to **transfer a patient From and To, a new Room and Bed location**
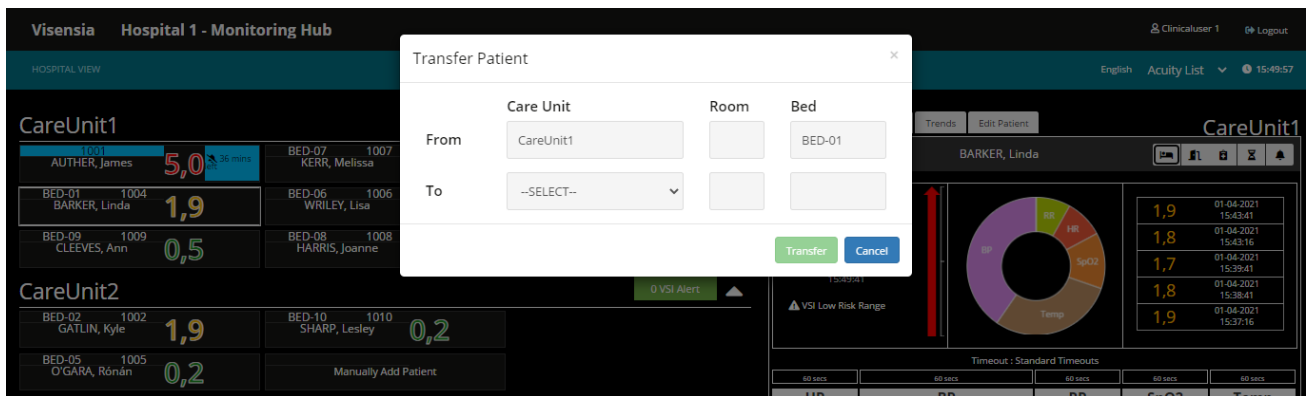
4. Select the Unit you wish to transfer the Patient to and input the Room and Bed location and select the **Transfer button**

5. The patient will now be transferred to the new Care-Unit and will be visible in the **Patient List** for that Care-Unit

   ▪ The Notifications Table will detail the transfer request, as well as the User actioning the request
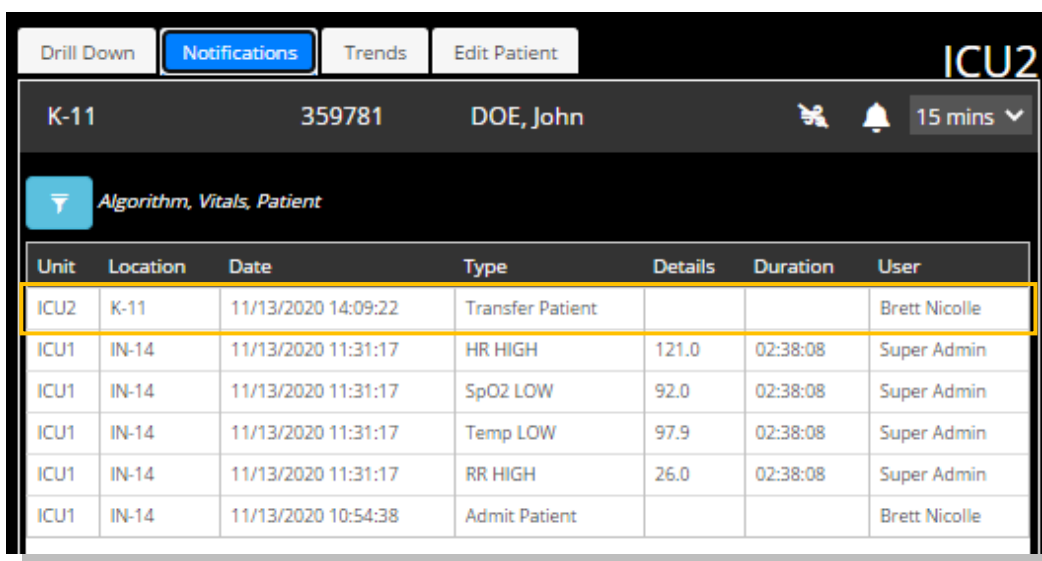
> **Note:** All historic information for the monitored patient should still be accessible providing an overview of the patient journey.
>
> **Note:** Depending on the system configuration, options to Admit, Transfer and Discharge patients manually via the Dashboard may be disabled and as such not displayed via the Hospital Viewer Dashboard.

Discharging a Patient

Patients should automatically discharge from a care-unit via ADT functionalty, which is configured during Installation and Set-up.

However is you wish to **manually Discharge** a patient from a Care-Unit then action the following:

1. Select the Patient from the **Patient List** you wish to **Discharge**

2. Using the **Drill Down display** – select the **Discharge Patient Icon** from the **Drill Down Tool Bar**
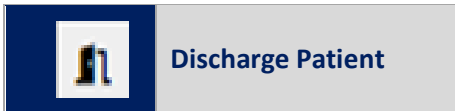
Discharge Patient

3. A dialogue box will be displayed, confirming you wish to **discharge the selected patient**

4. Select the **Discharge Button**

5. The patient should now be removed from the Patient List for the selected Unit

6. As the patient has now been discharged from the Visensia system, you can no longer access the Drill Down to review the Notifications Tab and associated Graphs and Charts.

Note: If ADT receives some information after you have manually discharged the patient, the system will automatically re-admit the patient to the Unit as per the ADT Message and update as per the message received.

Note: Until the configured ADT system sends out Discharge message, the patient could re-appear in the Patient List for the Care-Unit even if you have manually Discharged the patient as ADT takes priority.

Support

Please contact you **System Administrator** for any technical issues experienced.

You can access an electronic copy of this User Guide via:

http://www.obsmedical.com/visensia-user-guides/

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Doc Reference: **011-0709-LMAN-R5**
Issue Date: **20 April 2022**
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