VISENSIA

Version 4

Clinical User Guide

OBS Medical
Data for Life

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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.

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.

The VSI Index can be segmented into various thresholds (High, Medium and Low) with associated colours for each threshold to aid workflow and protocolised responses as defined by your Organisation.

Intended Use

Visensia with alert is a software product intended to be used 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.

Contraindications

Visensia should not be used in the following circumstances:

- Paediatric patients, defined as individuals under 18 years of age.

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.

⚠ Visensia relies on continuous and accurate physiological data. Use in environments with unstable, intermittent, or unreliable data connectivity may result in delayed, incomplete, or inaccurate Visensia Index calculations.

⚠ Visensia is intended to support clinical assessment. It must not be used as the sole basis for diagnosis, treatment decisions, or escalation of care. Clinical judgement and established hospital protocols must always be applied.

⚠ Visensia does not replace bedside monitoring, clinician assessment, or existing hospital monitoring and escalation systems.

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 Visensia Alerts are silenced.

⚠ 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.

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: Prior to installing Visensia, the primary monitoring system should have already been installed and configured according to the manufacturer's instructions. Any queries concerning sensor outputs, please contact your Hospital IT.

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

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.

Symbols

Symbol	Title	Description
	Manufacturer	Indicates the medical device manufacturer
	Build Date	Indicates the date the Lot / Batch / Software Version was released
LOT	Batch Code	Batch code so the Lot / Batch / Software Version can be identified
REF	Catalogue Number	Catalogue number so product can be identified
	Consult Instructions for Use	Indicates the need for user to refer to instructions for use
Rxonly	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 clinical dashboard.

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 dashboard.

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 warning will be clearly displayed across the clinical dashboard to warn users of this limitation and instructing them to speak to their system administrator to resolve.

⚠ **Warning: Algorithm License Expired or Exceeded Use Limit – Contact Administrator**

During this time the Visensia Index cannot be calculated for beds monitored outside of the current limit. However, the Vital Signs as received from the primary monitoring system will still be displayed via the Clinical Dashboard to ensure continuity in monitoring while the license limitation is resolved.

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 warning, indicating the existing Algorithm License requires a review as the VSI Index is not being computed due to a License issue.

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.**

1. Using a **compatible web browser** and **supplied web link**, navigate to the Visensia homepage, and input your **login credentials and Login.**

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

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

Change Password

Once logged in, you can change your password via the **User Profile** panel.

1. Open the **User Profile panel** by selecting your name from the top right-hand corner of the dashboard**.**

2. Select the **Change Password** button.

3. Complete the form as required and press **OK**.

4. Log back into the system using your new credentials.

Forgotten Password

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

1. Type in your **Username** or **Email** and press **Confirm.**

2. A message will be displayed "If the User is found, an email will be sent detailing how to reset your password"

   The 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: A mail server will need to have been configured by your System Administrator to enable this functionality.

User Roles and Types

All system Users are allocated a **Role** which controls the level of access they have to the various functions and scope of the Visensia system.

The **Clinician Role** then has two **User Types** namely:
1. **Web User**. A User who works in a specific department or unit. Has regular access to a workstation.
2. **Mobile User**. A User who works in various departments or units. Has no regular access to a workstation.

User Role	User Type	Scope
Administrator	Super Admin	Manage Installation, Licenses, Inputs, Configurations, Users, Default Algorithm and Vitals Threshold settings.
	Hospital Group	
	Hospital	**(See Part No. 011-0710-LMAN for more information)**
Clinician	**Mobile**	View and interact with the systems Clinical Dashboards and functions as configured by the Administrator
	Web	**(See Part No. 011-0736-LMAN Visensia Mobile User Guide)**

The functionality available to a Clinical User are outlined in Table 1: Clinical User Type / Function Matrix

Note: The **clinical dashboard (User Types – Web or Mobile)** and **functionality may differ based on regional variations or system configuration.**

Please refer to the **Administration and Configuration Guide [011-0710-LMAN]** or speak to your system administrator for more information.

Note: Images used within this manual are provided for reference purposes only. All patient names and data used throughout this guide are fictitious.

Table 1: Clinical User Type / Function Matrix	User Type	
Functions	Mobile	Web
Visensia (VSI):		
View Visensia Index (VSI Value / Date & Time)	x	x
View Visensia Historic Calculations Chart	x	x
View Visensia Contributions and Anomaly Charts	x	x
View Visensia Trend Graph	x	x
View Patient Trend Arrow (PTA)		x
View VSI Statistics (Mean, Median, Max, Min)		x
View VSI Statistics by Shift Pattern (Early, Late, Night)		x
Visensia Alerts		
Manage VSI Audible Alert (On / Off)		x
Acknowledge VSI Alerts		x
Silence future VSI Alerts	x	x
Clear VSI Silenced Alerts	x	x
Vital Signs:		
View Vital Sign Data (Vital Sign Value / Date & Time)	x	x
Apply Patient Specific Vital Sign Upper / Lower Thresholds		x
Acknowledge Vital Sign Alerts		x
Silence future Vital Sign Alerts		x
Manually Input Vital Sign Data		x
Set Default Vital Sign Timeouts		x
Apply Patient Specific Vital Sign Timeouts		x
Patient Lists:		
View Patient Lists for multiple units – 'Acuity List'		x
View Patient List for a single unit – 'Patient List'	x	x
View 'My List'		x
View 'Drill Down Display'	x	x
View Demographic Data (Name, Age, Gender, Hospital No# and Location)	x	x
View Events (Patient / Algorithm / Vitals)	x	x
ADT Functionality (Standalone):		
Manually Admit, Transfer and Discharge Patient		x
Manage Demographic Data (Name, Age, Gender, Hospital No#, Location)		x

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

Clinical Dashboard – Web User

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 No# Patients | VSI Alerts / Silenced Alerts	**7.** VSI Section VSI | Trend Arrow| Contribution / Anomaly | VSI Historic Table
2. Logged In – User User Profile Panel | Audible Alert Settings | Manage Password	**8.** Vitals Section Vital Signs | Timeouts | Warning Thresholds
3. Patient List Acuity List | My List	**9.** Drill Down Toolbar Discharge | Transfer | Add Vitals | Timeouts | Vital Thresholds
4. Patient Information Tile (Active Alert) Patient Info| VSI | VSI Trend | Patient Trend Arrow | Vital Signs	**10.** Admit Patient Button Unit Specific
5. VSI Alert Notice Box No# Active Alerts	**11.** Patient Tile – Active Alert Status Red Fill and associated timer
6. Drill Down Section and associated Tabs: Events | Trends |Manage Patient| Statistics	**12.** Patient Tile – Silenced Alert Status Blue Fill and associated timer

> **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%.

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.

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.

The number of active **Vital Sign Threshold Warnings** and **VSI Alerts** for the Care Unit is displayed within the heading of the Care Unit.
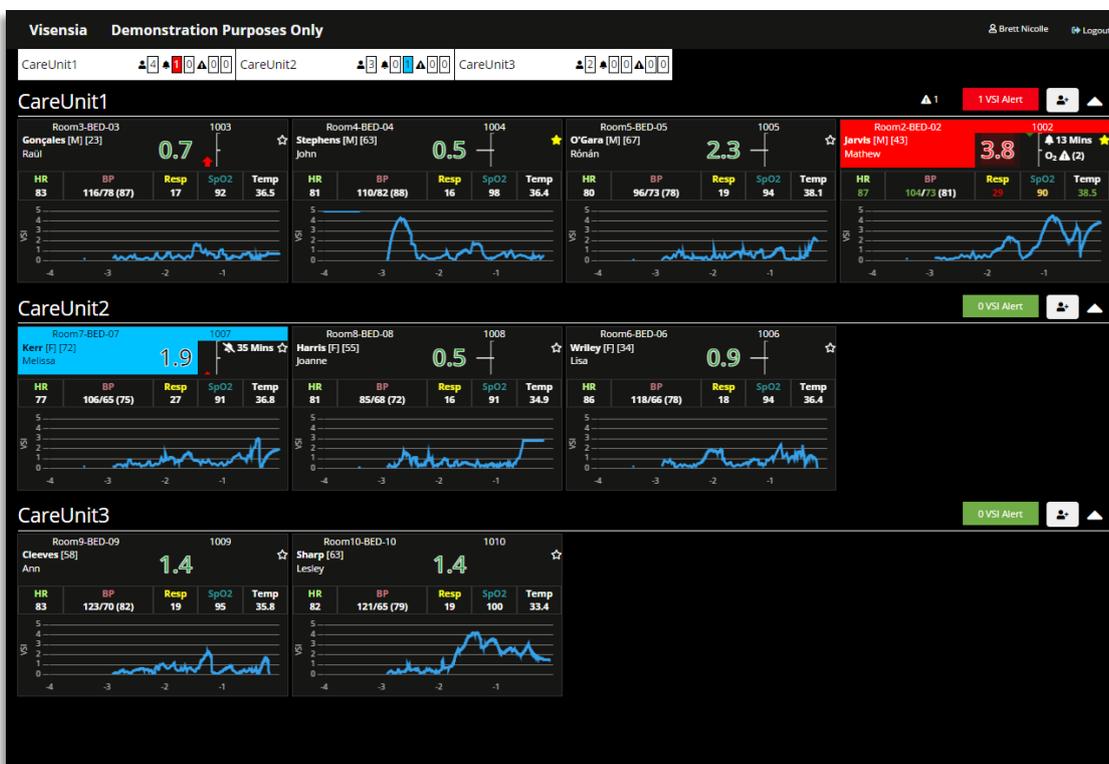
Selecting a **Patient Tile** will bring up more detailed information via the **Drill Down Display**.

- VSI Section
- Vitals Section
- Events Tab
- Trends Tab
- Manage Patient Tab

The below Tabs are off by default and will need to be enabled and configured by your system Admin.

- Statistics Tab

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.

**Note:** See the relevant sections on the **Statistics Tab** for more information.

My List

My List allows you to select patients that are assigned to you for specific reasons and to clearly highlight these patients from the Patient information Tiles within the main Acuity List and associated Care Units.

My List is specific to your login and cannot be seen by other Clinical Dashboard Users.

My List displays those 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 within the Acuity List but are simply listed via the Patient List.

- The associated Care Unit name is detailed within the Patient Tile.
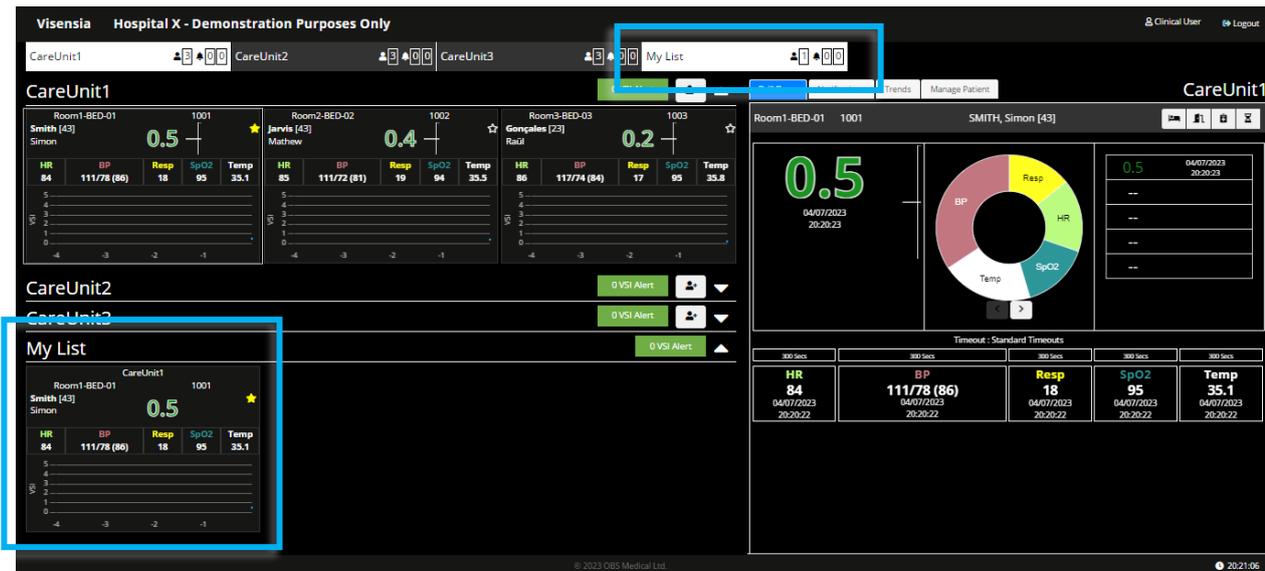
Note: My List is a configuration option within User / Group Permissions. If enabled, the Unit Selector will only display My List once a Patient Tile has been "Starred" as a favourite. If the Patient Information Tiles do not have a star, the functionality has been disabled.

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.**

The **number of patients assigned** to the Unit, along with any **active VSI Alerts or Silenced Alerts** for the Unit remain visible.
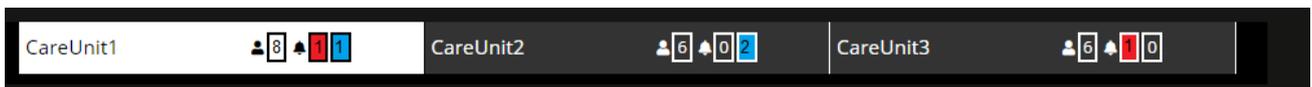
Clinical Users can **activate / deactivate**, which Care-Units they want expanded or collapsed within the Patient List, by clicking on the relevant Care-Unit within the Unit Selector. (**Collapsed – Black Background**)

	The **number of patients admitted** to the Unit
	The **number of Active VSI Alerts (Red)** and **Silenced Alerts (Blue)** for the Unit

Patient Tiles

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

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

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: **Room1** Bed: **BED-01**
	Hospital / Patient ID: **1001** Patient Name: **Simon Smith**
	Age: **43** Gender: **Male**
	All vital signs monitored and current values. • **Warning Notification (1)** for **Low SpO2.** • **Supplementary Oxygen (O₂)**
	VSI (0.3) and VSI Trend Graph. Patient has been selected for **My List.**

Example 2 – Active VSI Alert	
	Patient Location - Room: **Room2** Bed: **BED-02**
	Hospital / Patient ID: **1002**
	Patient Name: **Mathew Jarvis**
	Age: **43** Gender: **Male**
	All vital signs monitored and current values. **Warning Notification (2)** for **Low SpO2 and High Resp.**
	VSI, Alert Status and VSI Trend Graph. **3.8** with an **VSI Alert Active** for **13 Minutes.**

Example 3 – VSI Alert Silenced	
	Patient Location - Room: **Room7** Bed: **BED-07**
	Hospital / Patient ID: **1007**
	Patient Name: **Melissa Kerr**
	Age: **72** Gender: **Female**
	All vital signs monitored and current values. **Warning Notification (Disabled – White)**
	VSI, Alert / Silence Status and VSI Trend Graph. **1.9** with **Silence Status remaining** for **35 Minutes.** Patient **not** selected for **My List.**

VSI Warning Notification Icons		
		Flashing Red Fill – Bell Icon - *Active VSI Alert* and duration of alert state in hh:mm:ss
		Solid Red Fill – Bell Icon – *Acknowledged VSI Alert* and duration of alert state in hh:mm:ss
		Solid 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 – *Silence Future VSI Alerts* and the time remaining before current setting expires in minutes.

Starred Patients Icons	
☆ ⭐	**Starred Patients,** indicating if a patient has been selected to be viewed via the "My List".

Vital Sign Warning Notification Icons	
⚠ (1)	**Threshold Breach Warning Icon.** The number of **Active Threshold Breaches (Algorithm or Vital Signs)** for a Patient if displayed in Patient Tile or for the Unit if displayed in the Unit Header bar.

Border Information	
	White Border – Patient Selected for **Drill Down Display**

| Other Symbols	
- -	Is displayed when there is no value to be displayed for the VSI Index or Vital Sign.
Sys / Dia **(xx)**	Rounded brackets indicate the **Mean Arterial Blood Pressure (MAP) value** as displayed has been received from the vitals feed. e.g., 130/77 (90)
Sys / Dia **[xx]**	Square brackets indicate the **Mean Arterial Blood Pressure (MAP) value** has been **estimated using the Systolic and Diastolic values received** from a vitals feed. e.g., 130/77 [90]

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, Patient ID, Gender and **Age** 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.

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.**
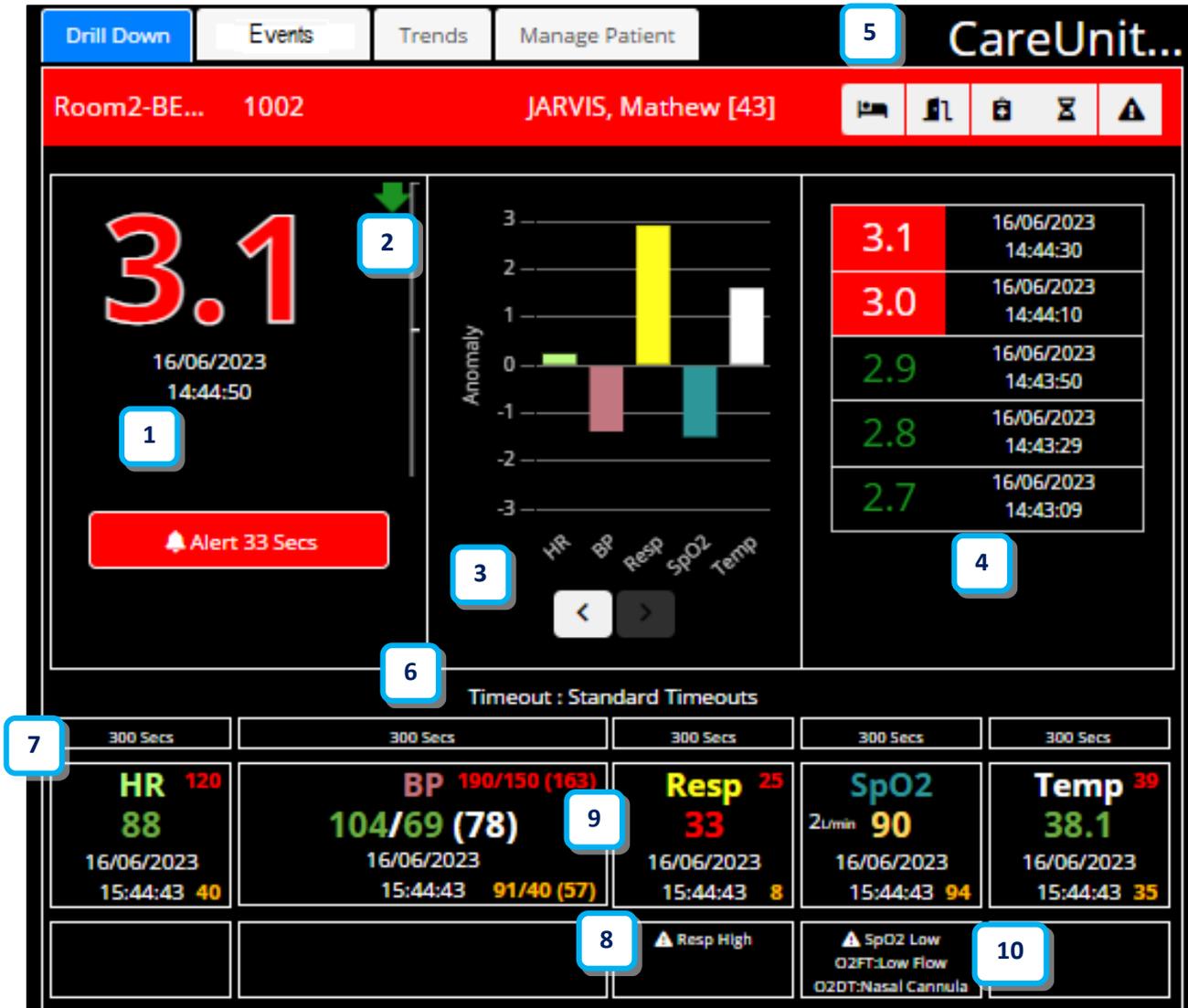
1. VSI Index and Alert Status	**2. Patient Trend Arrow**
3. VSI Contributions Chart or Anomaly Chart	**4. VSI History Table**
5. Drill Down Tool Bar	**6. Current Vital Sign Timeout for VSI**
7. Vital Sign Chart	**8. Vital Sign Threshold Warnings** Upper and Lower Threshold Breaches
9. Vital Sign Threshold Options	**10. Supplementary Oxygen Warnings** O2 Flow Type and O2 Device Type

The **Drill Down** display provides additional information when reviewing a patient using the following tabs**:**

- **Events Tab**
- **Trends Tab**
- **Manage Patient Tab**
- **Statistic Tab**

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 into various thresholds with associated colours for each threshold to aid workflow and protocolised responses as defined by your Organisation.

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.
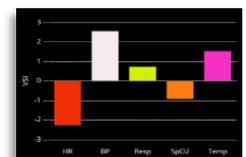
o VSI History Table

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.
	Vital Sign Threshold Warnings	Select the Vital Sign Threshold Warnings Icon to view the default Vital Sign Warning thresholds applied and to set patient specific thresholds if enabled.
	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 Section**

Displays the current vital signs for the patient, their values and the date and times at which the vital signs were recorded. If enabled, this section will also display **Threshold Breach Warning Notifications**.

- Vital Sign Thresholds (Unit & Patient Specific)

The Upper and Lower vital sign thresholds area displayed next to the vital sign value displayed.

- Threshold Breach Warnings

The threshold breach warnings are displayed below the relevant vital sign.

VSI Warning Thresholds

The VSI Index can be segmented into various thresholds with associated colours for each threshold to aid workflow and protocolised responses as defined by your Organisation.

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.

The default set-up is outlined below, with the **High-Risk Threshold Range** enabled.

Enabled	VSI Warning Thresholds		Warning Notification	Enable Latching	Lower Limit	Upper Limit
✓		**High-Risk Threshold**	✓	✓	**3.0** 🔔	**5.0**
☒		**Medium-Risk Threshold**	N/A	N/A	1.5	2.9
☒		**Low-Risk Threshold**			0.8	1.4
The upper limit is auto calculated according to the lower limit of each enabled threshold.					**0.0**	**2.9** (0.7)

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

Across multiple retrospective analyses and care environments, **VSI ≥1.5 has consistently emerged as a clinically meaningful inflection point** associated with increased risk of deterioration or death.

These findings support a tiered interpretation of VSI values, in which:

- **Higher VSI values (e.g. ≥3.0)** are associated with imminent risk and may warrant urgent escalation or rapid response activation.
- **Lower but elevated VSI values (e.g. ≥1.5)** may indicate early or evolving deterioration and support increased clinical vigilance, reassessment, or enhanced monitoring.

This tiered interpretation is consistent with the intended use of VSI as a clinical decision support tool and does not replace clinical judgement or established escalation protocols.

An example tiered alerting strategy:

- **VSI ≥3.0 → RRS / escalation (unchanged)**
- **VSI ≥1.5 →**
  - Discharge pause
  - Senior review
  - Enhanced monitoring
  - Post-discharge safety planning

You can view the configured 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 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 can only be amended by your Administrator.

Note: The VSI values in grey are suggested threshold limits when enabling a more tiered risk strategy.

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 Clinical dashboards will provide a visual alert when the Visensia Index equals or exceeds the defined Algorithms **High Warning Threshold**.

- The **Unit Selector** will update to display an **Active VSI Alert** for a particular Care-Unit.

- The **border** of the **Patient Tile** will begin to **flash red**.

  - When an alerting Patient Tile is selected, the **Drill Down Tab**, is also coloured red and you can then interact with the Alert Status using the **Alert Button** or **Latched Alert Button**.

  - The system can also be configured to **sound an Audible Alert** in addition to the visual alert.

Unit Selector, Patient List and Patient Information Tile
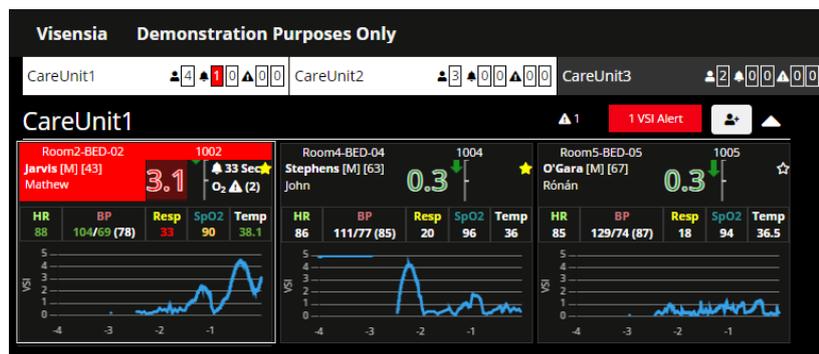
Drill Down Section
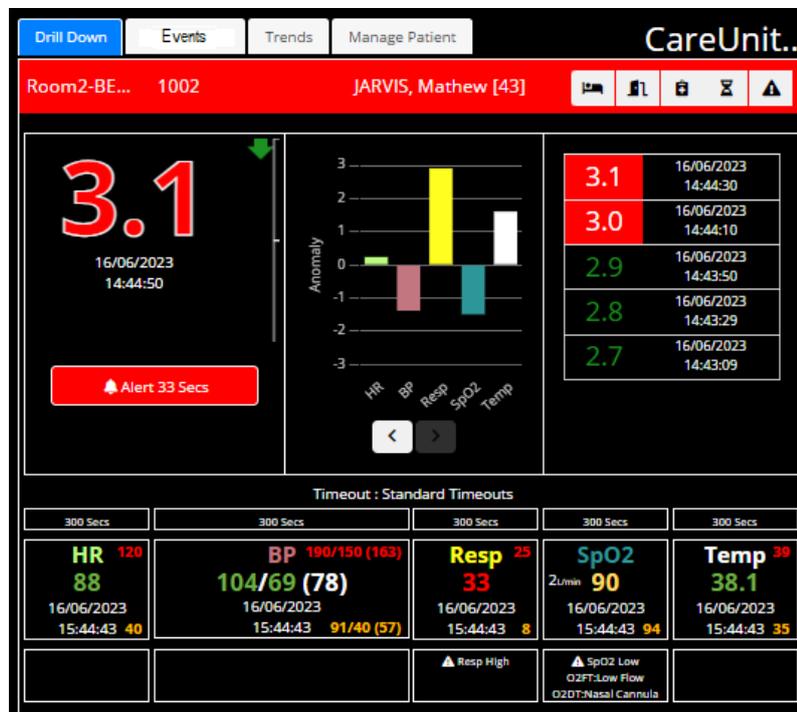
	The Alert Button and how long the Alert Status has been active for, will be displayed. i.e., 18 Minutes
	If **Latched Alerts** are enabled, the **Latched Alert Button** and how long the Latched Status has been active for, will be displayed.

Acknowledge a VSI Alert

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

To **Acknowledge** an active VSI Alert

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

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

 Select the **Alert Button** and **Acknowledge** the active VSI Alert.
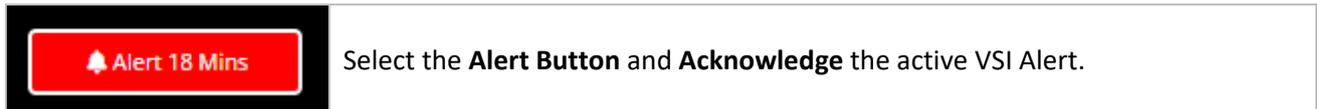
3. A dialogue box will be displayed showing you a list of available time periods to Silence the Visensia Alert for.
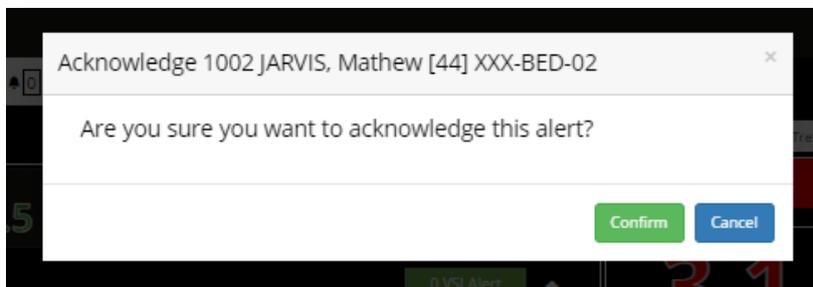
4. The **Patient Information Tile** will change from an **Active Alert Status** (Flashing Red – with optional audible alert sound being broadcast) to the **Acknowledged Alert Status** (Solid Red – with audible alert sound being stopped).

5. The **Time Stamp** will continue to display the duration of the alert status, regardless of it being an active or acknowledged alert to highlight the length of time the patient has been in this state.

6. The Events Tab will detail when the Active VSI Alert was Acknowledged and by which User.

7. You can also **Silence future VSI Alerts** for a defined period while any implemented interventions take effect.

Silence future VSI Alerts

Once you have reviewed and acknowledged an active VSI Alert, you can then Silence future alerts for a defined period, while a planned intervention takes effect.

To **silence** an VSI Alert

1. Select the **Patient Information Tile** with the **Acknowledged Visensia Alert.**

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

🔔 Alert 18 Mins	Select the **Alert Button**. From the drop down options available, select the time period required and **select > Silence**

3. A dialogue box will be displayed showing you a list of available time periods to Silence the Visensia Alert for.
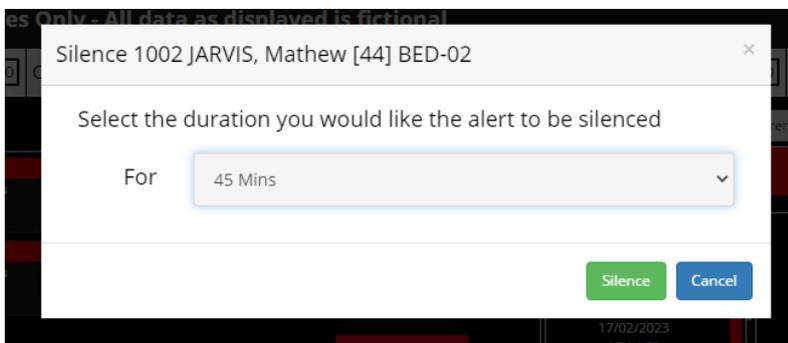
4. The **Patient Information Tile** border will change from an **Alert Status to the Silence Alert Status** indicating future Visensia Alerts have been **Silenced.**

5. The **Time Stamp** will now show time remaining, before the **Silenced Alert will time-out** e.g., 45 Minutes.
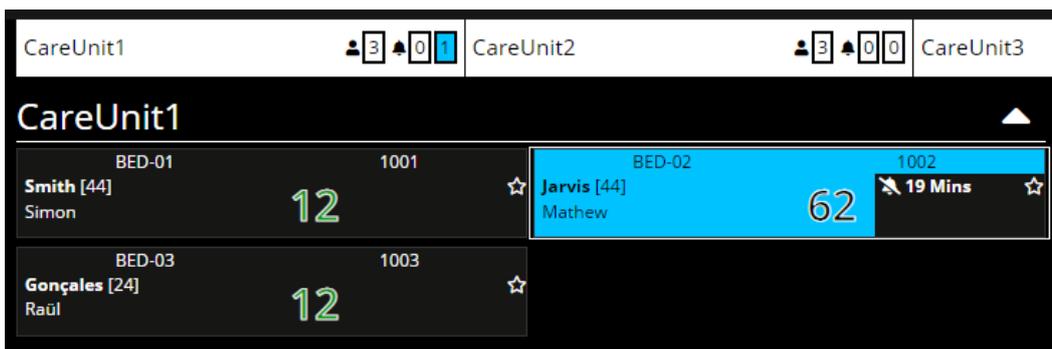
Note: The **Unit Selector** will update to show the number of **Silenced VSI Alerts** there are for the Care Units assigned to you.
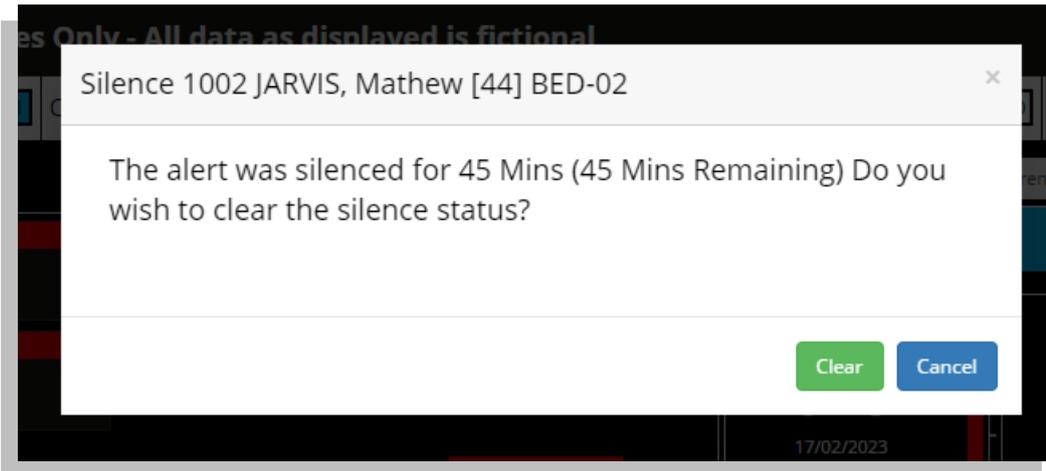
Clear a VSI Silenced Alert

Using the **Drill Down** display

1. Select the **Silenced VSI Button** from the **VSI Section**

🔕 Silenced 45 mins	Select the **Silenced Button** to clear the Silenced Alert status applied. Check the patient information and **select > Clear.**

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

> Silence 1002 JARVIS, Mathew [44] BED-02   ×
>
> The alert was silenced for 45 Mins (45 Mins Remaining) Do you wish to clear the silence status?
>
> Clear   Cancel
>
> 17/02/2023

3. Select the **Clear** button.
4. The **Silenced Alert Status will now be removed.**
5. If the VSI Index is still within the High Threshold Range the patient tile will start to Alert again. Apply a new Silence period as required.

> **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 Events Table.
>
> **Note:** If Latching is enabled, then the VSI Alert will remain in place until the latched alert is acknowledged.

VSI Alert Notice Box

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

> Care Unit 1 ⌃   2 VSI Alerts

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.

VSI Latched Alerts

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

|	
	Select the **Latched Alert Button** to acknowledge an Latch VSI Alert. Select > **Confirm** to remove latched alert.

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.**

1. Select the Patient Tile with the Latched Alert Status.

2. Review the historic VSI Alert and VSI Trend data as required.
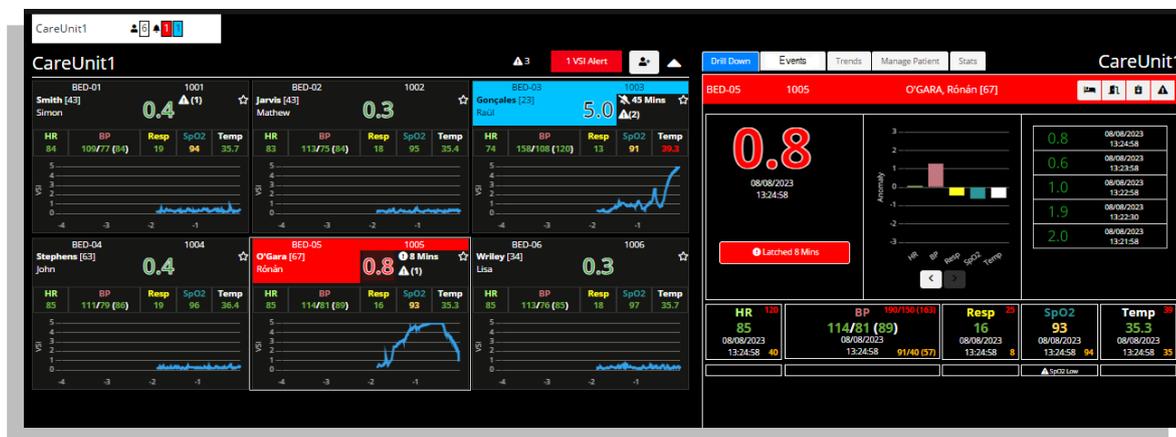
3. Select **Confirm** to **Acknowledge** the Latched Alert.
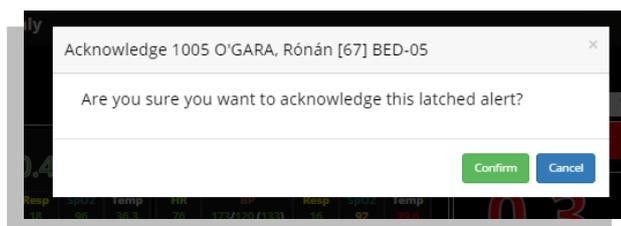
4. Once acknowledged, the **Patient Tile** will revert to the current Threshold Status and colour.

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.

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- **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
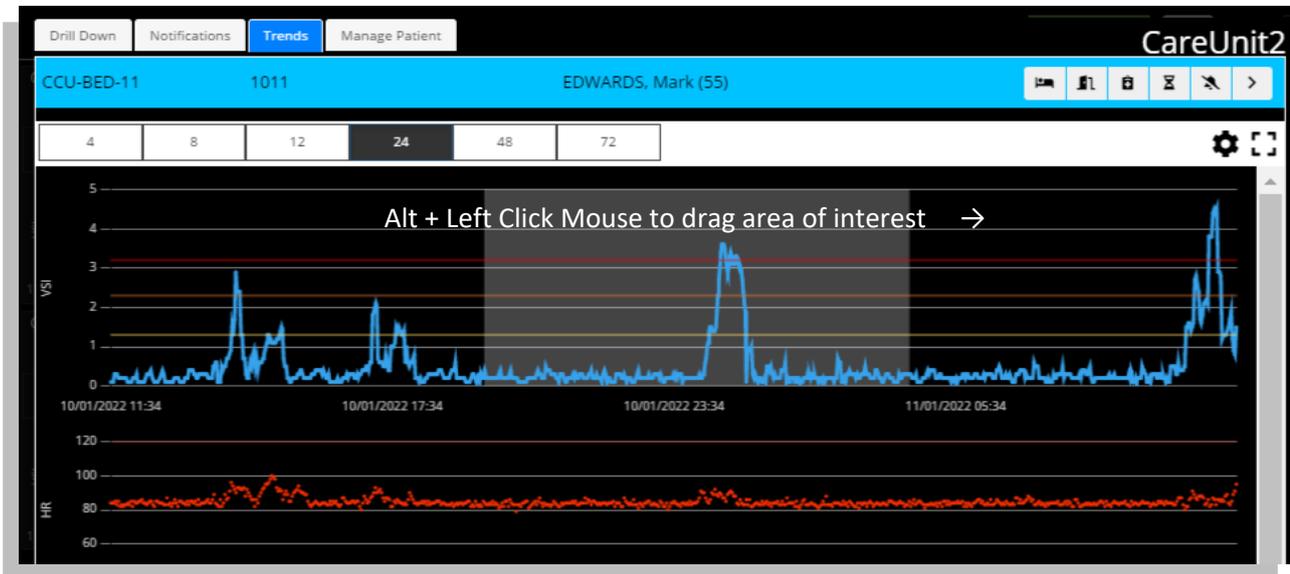
Hovering your mouse pointer over individual trend graphs will reveal the values for each recorded vital for the date / time.

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 Section

The **Vitals Section** 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
	Vital sign Warning Thresholds have been disabled

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.

	White Background – No data ever received for this vital sign.
	Grey Background – Data received in the past but has now stopped.
	Black Background – Data is currently being received for the 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 VSI.
~	**Erroneous data –** Indicating that the data being received from the source device has been flagged as erroneous by the source device, i.e. Affected by movement or noise. Take this into consideration when reviewing the VSI, as the Index may be adversely affected by poor data causing a Technical Alert.

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.**

Vital Sign Warnings

Visensia can be configured to display **warnings** when monitored vital signs have met or exceeded the systems defined thresholds.

⚠	**Vital Sign Threshold Warnings**	Select the Vital Sign Threshold Warnings Icon to view the default Vital Sign Warning thresholds applied and to set patient specific thresholds if enabled.

These warnings are indicated on the dashboard as a **visual warning icon** and **text indicator** within the **Patient List and Vitals Section** as follows:

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

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

▲	Patient Specific Value (120)	▼	
▲	Patient Specific Value (40)	▼	

Value (120)	Care-Units Default **Upper Limit**
Value (40)	Care-Units Default **Lower Limit**

The image below highlights;

- Heart Rate (HR) breaching the Upper Threshold (120).
- 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.

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 Tool Bar using the **> Vital Sign Warnings Icon**.

⚠	**Vital Sign Threshold Warnings**	Select the Vital Sign Threshold Warnings Icon to view the default Vital Sign Warning thresholds applied and to set patient specific thresholds if enabled.

1. Once the Vital Sign Threshold Warning Icon has been selected, the Vital Sign Threshold form is displayed:

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

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

▲	Patient Specific Value (26)	▼
▲	Patient Specific Value (8)	▼

Value (25)	Care-Units Default **Upper Limit**
Value (8)	Care-Units Default **Lower Limit**

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

4. Select **Save**

- The **Drill Down** display will now update, and your new settings should be applied to the **Vitals Section**. 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.

Events Chart

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

1. Using the **Drill Down** display – select the **Events Tab.**

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

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

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 Events Tab (Vital Events) 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.

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**

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.

4. If enabled by your Admin, you can also document **Supplementary Oxygen (Supp O2)** information that will be displayed alongside the SpO2 value such as Flow Type (High or Low Flow) and the Delivery Device used (i.e., Nasal Cannula, Face Mask) along with the Flow Rate as Litres per Minute (L/Min) or Percentage (%).

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.

5. The dialogue box will disappear, and the updated Vitals Section will now be updated to display the observed Vital Sign values and associated Timestamp. Supplementary Oxygen information will be displayed as a Warning with an O_2 icon being visible within the Patient Tile.

6. 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 Section will be updated to reflect the new TimeOut option chosen.

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, some **Users or User Groups** can have the **permission enabled**. If you wish to Manually Add Patients (Admit) to a Care-Unit then action the following:

To **Manually Admit a Patient**

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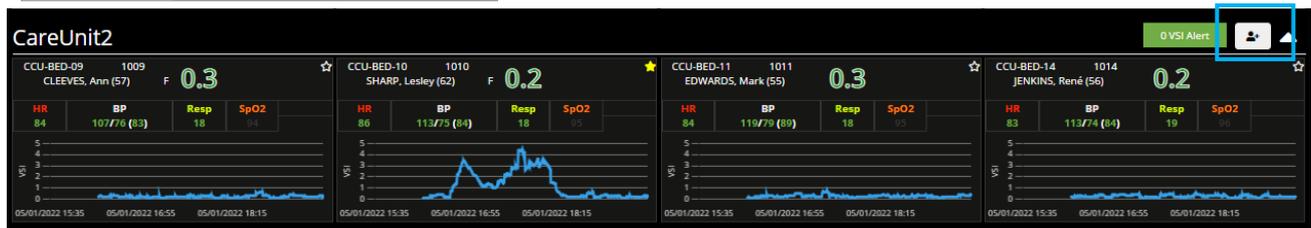
2. The **Admit Patient** display is now shown for the Care-Unit selected.

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.**

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 Clinical Dashboard.

Transferring a Patient to a different Care-Unit

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

However, some **Users or User Groups** can have the **permission enabled.** If you have this functionality enabled and 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.**
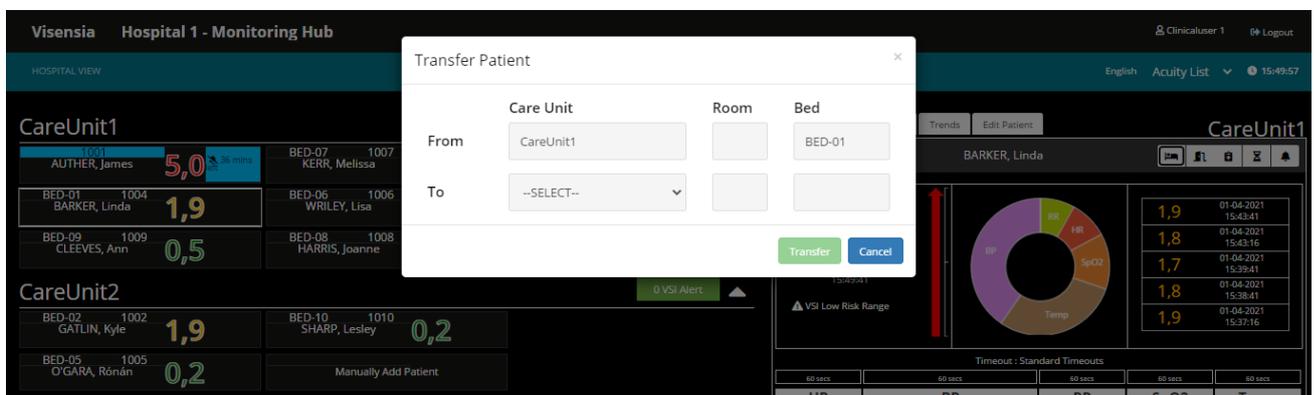
4. Select the Unit you wish to transfer the Patient to and input the Room and Bed location and select the **Transfer button.**

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 Events Tab 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, some **Users or User Groups** can have the **permission enabled.**

If you have this functionality enabled and 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 Events 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.

Manage Patient Tab

The Patient Information section under the Manage Patient Tab displays the following information as received by a configured input. i.e., Patient Administration System (PAS).

- Location
- Patient ID
- Gender
- Date Of Birth
- First Name
- Last Name

The Manage Patient Tab display the Patient Information for a selected Patient according to the permissions defined for the User or User Group.

By default, the Patient Information settings are set to Read Only. This ensures certain fields like Location or Patient ID are not inadvertently changed, thus affecting the receipt of vital sign data.

However, the Patient Information setting can also be configured as hidden for dashboards in public spaces.

If you have permission to update the form, you can update each filed as required and then press Save to action the update.

Use the Reset button to apply the previous know data if you have made a typo error – before you select Save.

Note: Updating certain fields like Location or Patient ID (MRN or PID) can affect the receipt of vital sign data from a configured input source. All changes to location and assigned patient should come from the primary monitoring device.
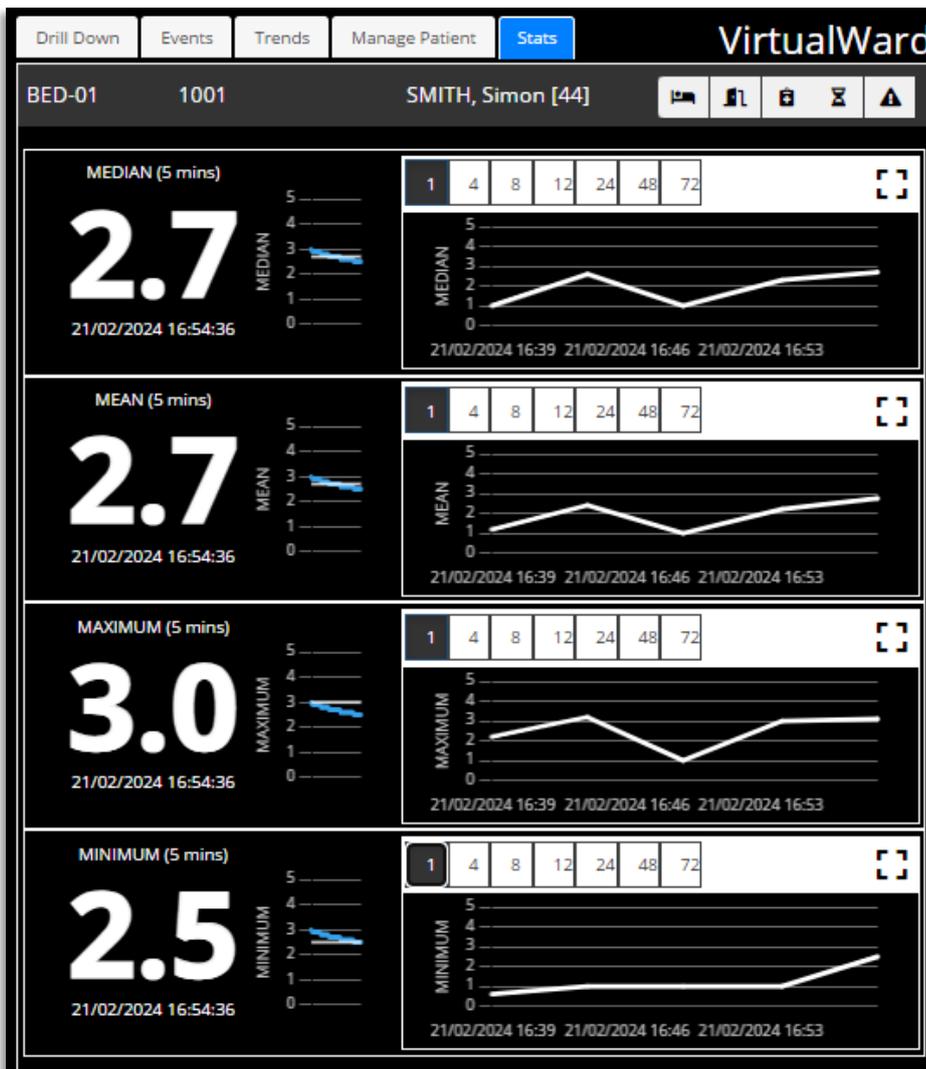
Statistics Tab

The Statistics Tab (Stats Tab) displays the Visensia Index (VSI) for a selected Patient according to the Statistic and associated Time Frame configured for the Care Unit.

The Statistic configuration options available for the **Visensia Index (VSI) for a configured period are:**

- **Median** – The middle value of the VSI

- **Mean** – The average of the VSI

- **Maximum** – The highest value of the VSI

- **Minimum** – The lowest value of the VSI

The values for each Statistic display are according to the Statistic Group and Time Window configured by your system administrator.

o The Statistic Value is displayed alongside a mini trend graph displaying the actual VSI values used in the Statistics calculation. e.g., The Median for the VSI for the past hour (60 Minutes) is 2.5.

o Use the larger trend graph to redraw the statistical trend data to review the calculated statistic data over the period selected, using the predefined options [1hr,4,8,12,24,48,72].

Note: Each plot for the Trend Graph is according to the configured statistic time frame.

Troubleshooting and Incident Reporting

If any problems or unexpected operation errors are detected during the setup, use or maintenance of the Visensia product, please contact your OBS Medical representative.

For any technical issues experienced, please contact your **System Administrator.**

Alternatively, you can refer to the OBS Medical Ltd contact information on the back page of this manual.

You can access an electronic copy of this User Guide via: http://www.obsmedical.com/visensia-user-guides/

Note: A printed copy of this user guide is also available on request. Please contact your local representative as required.

Sever Downtime

Server downtime is defined as any time the server is unavailable or unresponsive.

Various factors, including planned maintenance, hardware failures, power outages, network problems, and software issues, can cause this.

Whenever the server is down, the clinical dashboard will display a message informing the Clinical Users the server is currently in downtime and to contact technical support if the issue persists for more than 15 Minutes.

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

![VISENSIA logo]

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