



Vitals Web User Manual

Version 2.0

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For general and detailed information about the Digistat Web environment and the instructions for use of the Control Bar Web application, see the specific documents of the Product. The knowledge and understanding of these documents is mandatory for an appropriate and safe use of Vitals Web, described in this document.

1. Introduction

The Vitals Web application permits data entry and display for a variety of clinical workflows, procedures and protocols. Examples are:

- Patient vital signs data collection for normal wards.
- Patient data collection for clinical protocols associated to specific diseases, treatments or prevention of diseases.
- Generation of reminders for periodic data collection or patient examination and documentation of the activity performed and provided services.
- Documentation of patient conditions also by means of pictures and audio recordings.

1.1. Launching Vitals Web

To launch Vitals Web:



- Click the **Vitals** icon on the lateral bar.

A screen is displayed, showing the data of the patient currently selected.

Vitals web requires patient selection. If no patient is currently selected, an empty screen is displayed, reminding that “This module requires a patient”. See section 1.2.

1.2. Patient selection

To select a patient,

- Click the **Patient** button indicated in Fig 1 **A**.



Fig 1

The Patient Explorer Web module opens. See the Digistat® Patient Explorer Web user manual (*USR ENG Patient Explorer Web*) for further instructions on patient management functionalities.



Other modules can be configured for the patient selection in place of Patient Explorer Web, depending on the choices of the healthcare organisation. If this is the case, see the specific documentation for instructions.

When a patient is selected the module displays the data of the selected patient.

2. Vitals web

2.1. Screen structure

The Vitals Web screen (Fig 2) is composed of the following items:

- 1) the enabled datasets list (Fig 2 **A** – see section 2.2);
- 2) the records table (Fig 2 **B** – see section 2.3);
- 3) the command bar (Fig 2 **C** – see section 2.5).

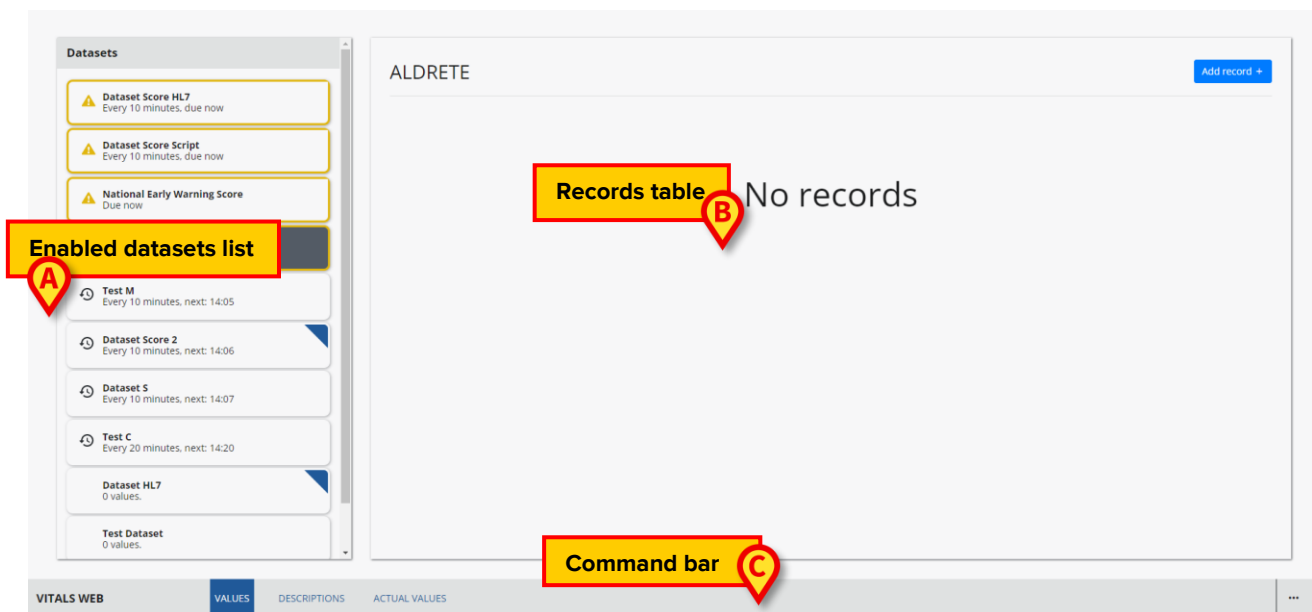


Fig 2

2.2. Enabled datasets list

The term “Dataset” refers to a structured set of data, considered as a whole. It can be, for instance, a score calculation, a set of vital parameters etc. For each patient the appropriate list of datasets can be enabled. If the datasets are enabled, they are listed in the “Datasets list” on the left (Fig 2 **A**, Fig 3). See section 2.5.1 for instructions on how to enable a dataset.

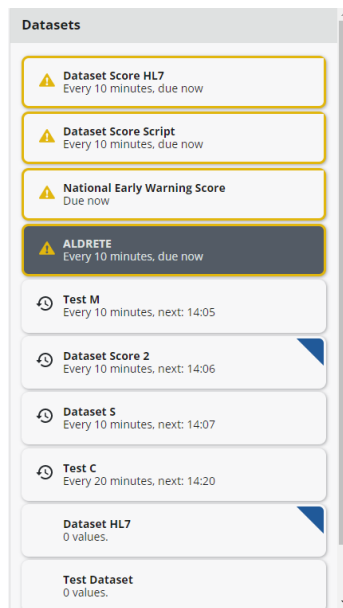


Fig 3

Each enabled dataset is displayed in a slot (Fig 4).

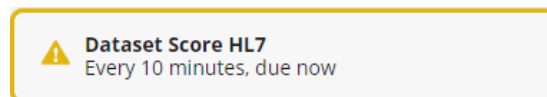


Fig 4

The slot displays the name of the dataset and additional information. The kind of information displayed depends on the dataset configuration. The dataset shown in Fig 4, for instance, is configured to be recorded every 10 minutes. Due time has passed in the example (data entry is therefore “due now”). When the due time has passed, the dataset name is circled yellow and a warning icon is displayed, as in Fig 4.

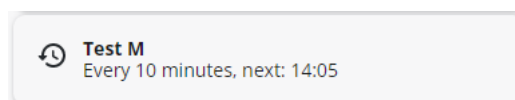


Fig 5

Fig 5 shows a dataset that is due every 10 minutes, with the next due time. The clock icon means that there are entries for the dataset.

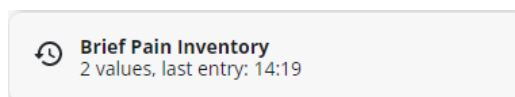


Fig 6

Fig 6 shows a dataset with no configured timing (free timing), indicating the number of entries and the time of the last entry.

- Click a slot to select the corresponding dataset and display the data recorded since for that dataset (records).

If a blue triangle is displayed on the corner of a slot (Fig 7 **A**), it means that the dataset is not published yet. This possibility exists only for users with specific permissions.

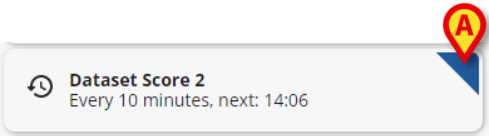


Fig 7

2.3. Records table

The records table displays the data acquired for a selected dataset. The data is displayed in a grid. The columns are the different successive entries. The rows contain the single values. In Fig 8 the Aldrete score is selected as example.

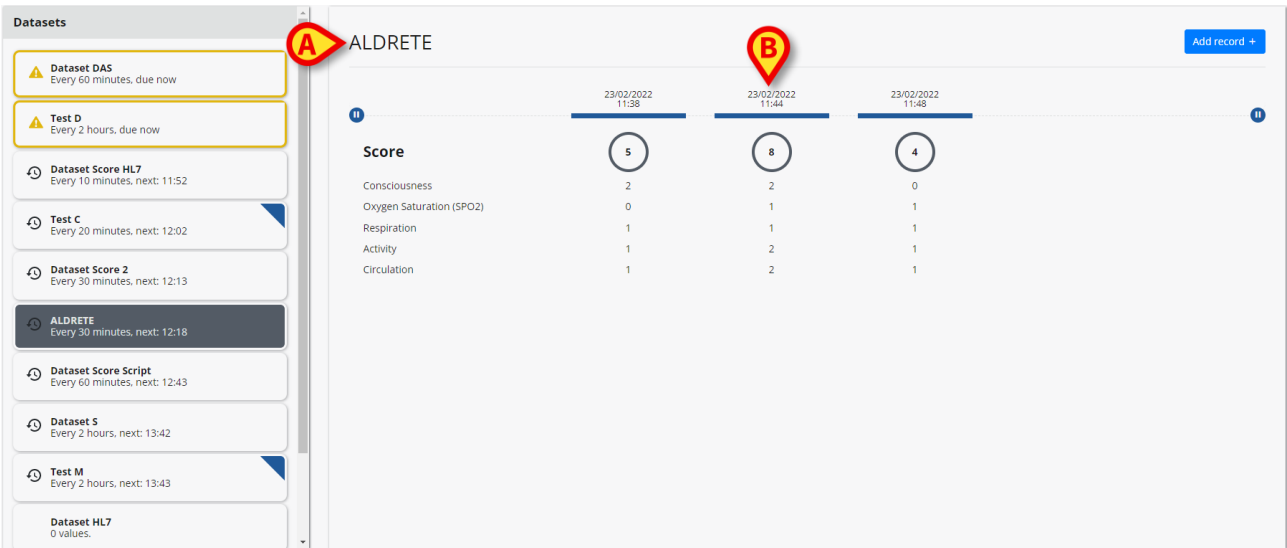


Fig 8

The name of the dataset is displayed on top (Fig 8 **A**). If configured, a help icon  can be present alongside the dataset name. Click the icon to open a help window.

The different entries are displayed in columns (Fig 8 **B**). The date/time of each entry is displayed on top of the column. In case of severity scores the total score is displayed as circled. The values of the single entries for the same score are specified below the total score, in the same column.

The score can be configured to highlight critical values. See Fig 9 **A**.

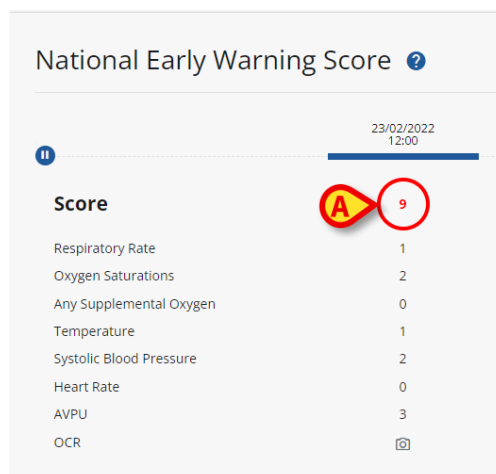


Fig 9 – critical values

2.3.1. How to record a new set of data

To record a new set of data

- Click the dataset on the left to select it (Fig 10 **A**).

The name of the selected dataset is displayed on top (Fig 10 **B**). The sets of data previously acquired are displayed on the records table (Fig 10 **C**).

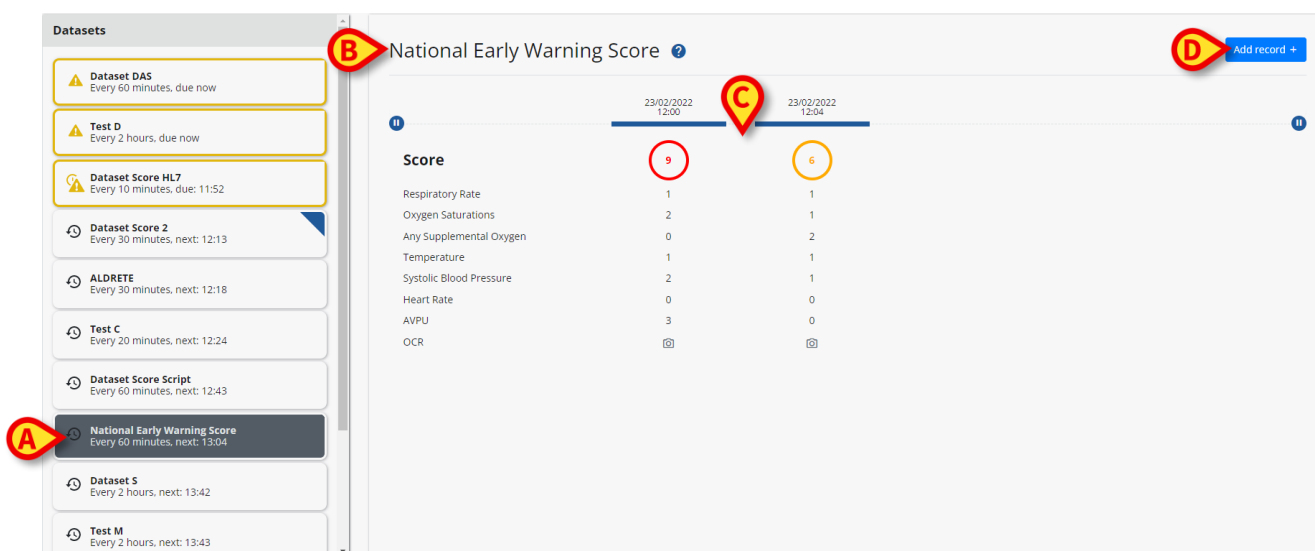


Fig 10

- Click the **Add record** button (Fig 10 **D**).

The data entry screen opens. The data entry screen changes according to the kind of data to be entered. Fig 11 refers to the National Early Warning Score. Other possibilities are described in section 2.4.

National Early Warning Score

Score: **0** Low score: Assessment by a competent registered nurse who should decide if a change to frequency of clinical monitoring or an escalation of clinical care is required.

Respiratory Rate *	0	12-20
Oxygen Saturations *	0	>=96
Any Supplemental Oxygen *	0	No
Temperature *	0	36.1-38°C / 96.9-100.4°F
Systolic Blood Pressure *	0	111-219
Heart Rate *	0	51-90
AVPU *	0	Alert

Alert, Voice, Pain, Unresponsive

Save **Cancel**

Fig 11

- Insert the required values according to the field type. The different types are described in section 2.4.

The fields indicated by the asterisk, as Respiratory Rate *: 0 12-20, are mandatory. I.e.: the record cannot be saved if they are not specified.

A textual description can be displayed below the field as a guide to data entry.

In Fig 12 the circled value is the score, the range displayed alongside the score refers to the actual value (respiratory rate in the example). The single choices can be associated to a color if required.

- 3 <=8
- 1 9-11
- 0 12-20**
- 2 21-24
- 3 >=25

Fig 12

Some of the values can be configured to be automatically acquired from the medical devices and inserted in the appropriate fields.

- Click the icon to refresh the values automatically acquired (Fig 13 **A**).

Heart Rate: +/- bpm

Description

A

Fig 13

If the dataset is a “Score” type, when all the fields are filled, the total score is displayed in the data entry window (Fig 14 **A**). As shown in the figure, a dataset can be configured to highlight certain values as “critical” (usually red - the color is configurable) or “requiring attention” (usually yellow/orange). A textual description can be associated to those values (usually instructions and/or clinical procedures).

National Early Warning Score

Score: 7 **A** High score: Emergency assessment by a clinical/critical care outreach team with critical-care competencies and usually transfer of the patient to a higher dependency care area.

Respiratory Rate *: 1 9-11

Oxygen Saturations *: 2 92-93

Any Supplemental Oxygen *: 2 Yes

Temperature *: 1 35.1-36°C / 95.1-96.8°F

Systolic Blood Pressure *: 1 101-110
Test description test description very long test t

Heart Rate *: 0 51-90

AVPU *: 0 Alert
Alert, Voice, Pain, Unresponsive

B Save Cancel

Fig 14

➤ Click **Save** when done (Fig 14 **B**).

The new record is added to the records table (Fig 15 **A**).

National Early Warning Score ? **A** Add record +

	23/02/2022 12:00	23/02/2022 12:04	23/02/2022 12:16
Score	9	6	7
Respiratory Rate	1	1	1
Oxygen Saturations	2	1	2
Any Supplemental Oxygen	0	2	2
Temperature	1	1	1
Systolic Blood Pressure	2	1	1
Heart Rate	0	0	0
AVPU	3	0	0
OCR	📷	📷	📷

Fig 15

2.3.2. Editing an existing set of data

To edit an existing set of data,

➤ Click the column corresponding to the relevant set of data (Fig 16 **A**).

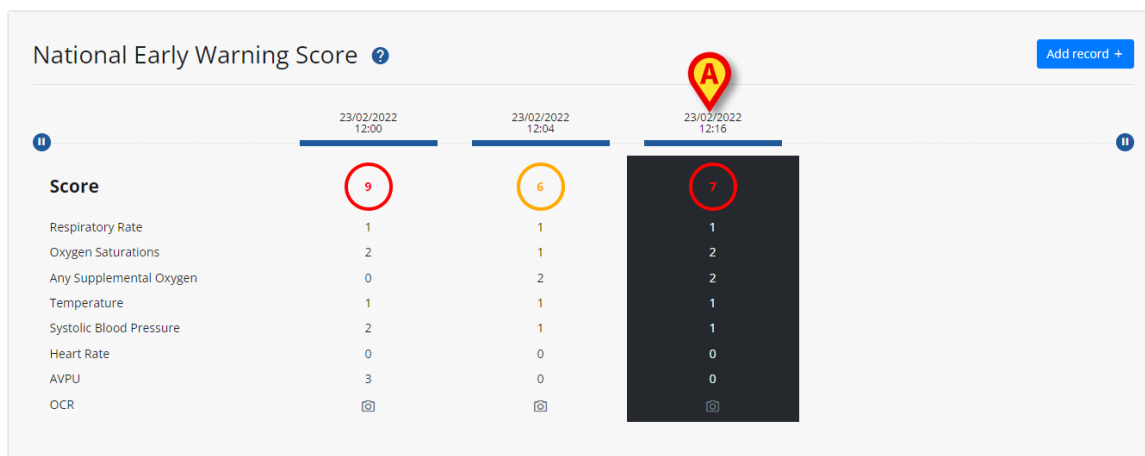


Fig 16

The corresponding data entry window opens (Fig 17).

National Early Warning Score 23/02/2022 - 12:16

Score: **7** High score: Emergency assessment by a clinical/critical care outreach team with critical-care competencies and usually transfer of the patient to a higher dependency care area.

Respiratory Rate : **9-11**

Oxygen Saturations : **92-93**

Any Supplemental Oxygen : **Yes**

Temperature : **35.1-36°C / 95.1-96.8°F**

Systolic Blood Pressure : **101-110**
Test description test description very long test t

Heart Rate : **51-90**

AVPU : **Alert**
Alert, Voice, Pain, Unresponsive

Edit **Close**

Fig 17

- Click **Edit** (Fig 17 **A**).

The window turns to edit mode (Fig 18).

National Early Warning Score 23/02/2022 - 12:16

Score: **7** High score: Emergency assessment by a clinical/critical care outreach team with critical-care competencies and usually transfer of the patient to a higher dependency care area.

Respiratory Rate *	1	9-11
Oxygen Saturations *	2	92-93
Any Supplemental Oxygen *	2	Yes
Temperature *	1	35.1-36°C / 95.1-96.8°F
Systolic Blood Pressure *	1	101-110
Heart Rate *	0	51-90
AVPU *	0	Alert

Alert, Voice, Pain, Unresponsive

C **A** **B**

Delete Save Cancel

Fig 18

- Edit the fields requiring to be edited.
- Click **Save** to publish the updated set of data (Fig 18 **A**).
- Click **Cancel** to close the window without editing (Fig 18 **B**).

2.3.3. Deleting an existing set of data

Use the procedure described in the previous section (2.3.2) until the data entry window is in edit mode (Fig 18).

- Click **Delete** (Fig 18 **C**).

User confirmation is required to complete the deletion procedure.

After user confirmation the corresponding column is removed from the records table.

2.4. Data entry modes

The type of entered data and the entry mode depend on the kind of information that must be specified.

In all cases, if an incorrect type is inserted (for example a letter in a numeric field), a message error is displayed.

Also, acceptable ranges can be configured for a certain field. If a value outside of the allowed range is inserted, a message error is provided.

The possible data entry field types are:

- **Numeric**

Only numbers are acceptable values. Type the number in the field.

- **Numeric list**

Numeric value to be selected on a drop-down menu. The actual values are associated to another value for score calculation;

- **String**

Free alphanumeric string. Type the string in the field.

- **List**

Select an item from a pre-configured list of items to be selected on a drop-down menu.

- **Boolean**

Only “Yes” or “No” values are possible. Select a checkbox to indicate “Yes”.

- **Image**

Image acquired by the user with the device camera. Can be acquired only on mobile devices, readable on any device.

- **Audio**

Recorded by the user with the device recorder. Can be acquired only on mobile devices.

- **String with presets**

Alphanumeric string with suggestions. It is possible to type a string and select the value on a drop-down list.

- **Date**

Insert a date. Click the icon indicated in Fig 19 **A** to open a calendar to be used for date selection.



Fig 19

- **Date/Time**

Insert date and time. Click the icon indicated in Fig 19 **A** to open a calendar and clock to be used for date/time selection.

- **Conditional**

A field can be configured to be displayed only if certain conditions are met. For example: a field is displayed only if the user selects a specific value from a previous list.

2.5. The command bar



Fig 20

The name of the web application currently selected is displayed on the left of the command bar (Fig 20 **A**).

For “Score” type datasets, three buttons, indicated in Fig 20 **B**, make it possible to change the way the values are displayed on screen.

Values – Displays the values as they are configured for a certain dataset.

Description – For some Scores a certain value corresponds to the description of a patient’s state. The “Description” display mode shows the descriptions corresponding to the values.

Actual values – When an actual value corresponds to a score (for example: if the oxygen saturation is 89, then the score is 2), the “Actual values” display mode shows the actual values instead of the score values.

Fig 21 and Fig 22 show the same dataset records displayed as “Values” (left) and “Description” (right).

	23/02/2022 11:38	23/02/2022 11:44	23/02/2022 11:48
Score	5	8	4
Consciousness	2	2	0
Oxygen Saturation (SPO2)	0	1	1
Respiration	1	1	1
Activity	1	2	1
Circulation	1	2	1

Fig 21

	23/02/2022 11:38	23/02/2022 11:44	23/02/2022 11:48
Score	5	8	4
Consciousness	Fully awake	Fully awake	Not responding
Oxygen Saturation (SPO2)	O2 saturation >90% even with O2 supplement	Needs O2 inhalation to maintain O2 saturation >90%	Needs O2 inhalation to maintain O2 saturation >90%
Respiration	Dyspnea or limited breathing	Dyspnea or limited breathing	Dyspnea or limited breathing
Activity	2 extremities	4 extremities	2 extremities
Circulation	BP ± 20% to 49% of pre-anesthetic level	BP ± 20% of pre-anesthetic level	BP ± 20% to 49% of pre-anesthetic level

Fig 22

The button on the right of the command bar (Fig 20 **C**) allows to access the list of available datasets. See next chapter.

2.5.1. Available datasets list

Only a subset of the available datasets is enabled for a patient.

A dataset can be enabled/disabled on the application by users having specific permissions. To do that:

- Click the  button on the command bar (Fig 20 **C**).

The list of available datasets opens (Fig 23).

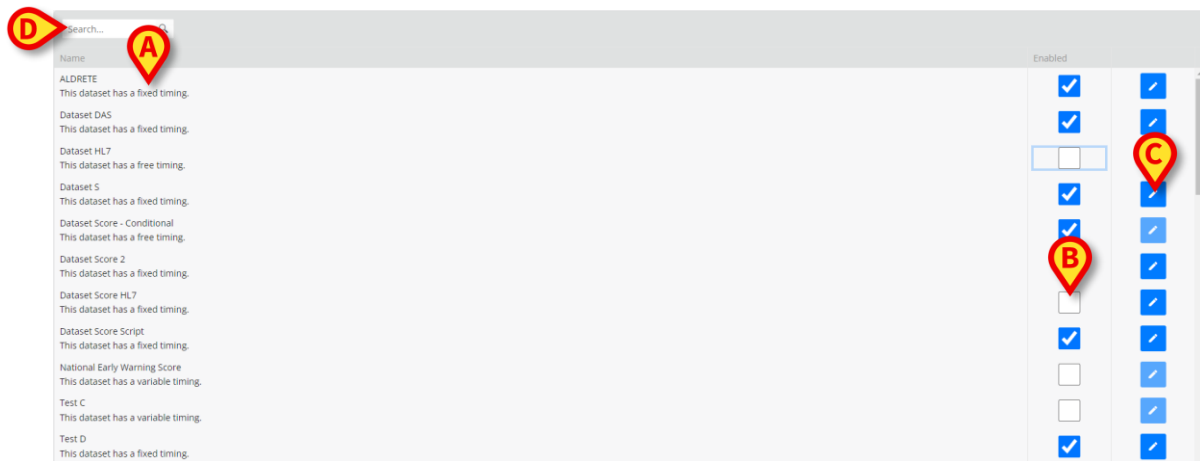


Fig 23

The available datasets are listed on the left (Fig 23 **A**). For each dataset the name and the timing mode are specified. Three timing modes are possible:

- **Free** – whenever required. No evaluation interval is specified.
- **Fixed** – to be evaluated at fixed time intervals (for example: “every 15 minutes”).
- **Variable** - to be evaluated at variable time intervals, depending on the patient state.

The timing mode is defined during configuration.

A search tool is available, making it possible to search for a specific dataset (Fig 23 **D**).

The checkboxes in the “Enabled” column (Fig 23 **B**) indicate which datasets are currently enabled. The enabled datasets are available for data entry on the application main screen.

- Select/Deselect a checkbox to Enable/Disable a dataset.

The buttons on the right (Fig 23 **C**) make it possible to edit some settings of the corresponding dataset.

- Click the  button (Fig 23 **C**) to open the following window (Fig 24).

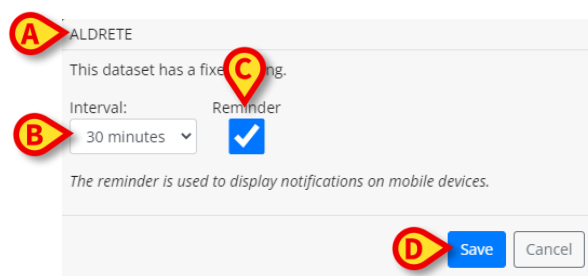


Fig 24

The name of the dataset is indicated on top (Fig 24 **A**).

The “Interval” field sets the fixed time span after which the specific set of data must be collected (Fig 24 **B**). This field is enabled only for datasets with fixed timing.

The “Reminder” checkbox (Fig 24 **C**) enables notifications display on mobile devices (at the interval specified).

- Click the **Save** button to save the settings (Fig 24 **D**).

To close the available datasets list and go back to the module main screen,

- Click **Close Settings** on the command bar (Fig 25 **A**).

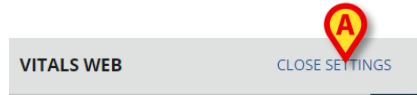


Fig 25