

Enhanced Patient Safety

Intuitive

**Bluebird**

**Doctor's EMR**



## Introduction to the Bluebird Doctor's EMR

The Bluebird electronic medical record for doctors was first released in 1994 and has built a loyal following. Unlike many other EMRs, Bluebird was designed by doctors for doctors with the primary aim of making clinicians more *efficient*.

The latest version is a cloud based EMR with an API that allows *all* practice management systems to integrate with the Bluebird clinical notes. That API enables the doctor's receptionist to update patient demographics in real time.

Besides *quickly* creating detailed clinical notes, the Bluebird EHR also facilitates hospital pre-admission and consultation requests. Bluebird integrates (in real time) to all labs in Southern Africa, including the NHLS.

## Bluebird EMR Navigation Bar



The application opens with the Bluebird EMR Navigation Bar at the top of the screen.

There are 6 navigation Links on the left of the Navigation Bar:

- **Patients:** A list of the patients that have been seen in the practice
- **Inbox:** A list of clinical communication that has come in to the practice (most typically laboratory results, imaging reports and consults)
- **Alerts:** A list of alerts that the practice has elected to receive
- **Tasks:** A list of tasks for this doctor
- **InPatients:** A list of current inpatients broken out by hospital and by ward
- **Discharged:** A list of all the practice patients that have been discharged from hospital

Each link will take one to the relevant *line list*.

One should deal with open Alerts urgently.

If there are open alerts, outstanding tasks, or patients in hospital there will be numbers (corresponding to the number of alerts, tasks or inpatients) shown in that link.

On the right of the Navigation Bar one finds 2 icons:

- **Preferences:** This opens the page where the doctor records their email address, cell number (both used for urgent communication) as well as their alert preferences
- **Log out:** This icon logs the Doctor out of Bluebird

## Patients

Clicking the Patient link will open a line list of patients.



The screenshot shows the Bluebird Office interface with the Patients section active. A search bar at the top contains the text "vine". Below the search bar is a table with columns for Name, Alert, Tasks, Notes, Current Problems, Allergies, Procedures, PMHx, Rx, OBGYN, Vitals, Vax, Specialty, and Investigations. The patient record for Darryl Vine is displayed, showing various medical details and icons for alerts and tasks.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3		Hypertension	Penicillin		Asthma	ABACAVIR		P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB S Cycle	

### Note:

If your practice management application (PMA) is set up to send Bluebird patient **Folder Numbers** as they arrive in your rooms, they will, by default, be shown on first opening this line list.

One may click the **Search Bar** at the top centre of the screen to open the **Search Box** to find specific patients. If a search is active, the bar becomes pink.



The screenshot shows a search box with four input fields: Folder, Date of Birth, First Name, and Last Name. Below the input fields are three buttons: Clear, Show Recent, and Find.

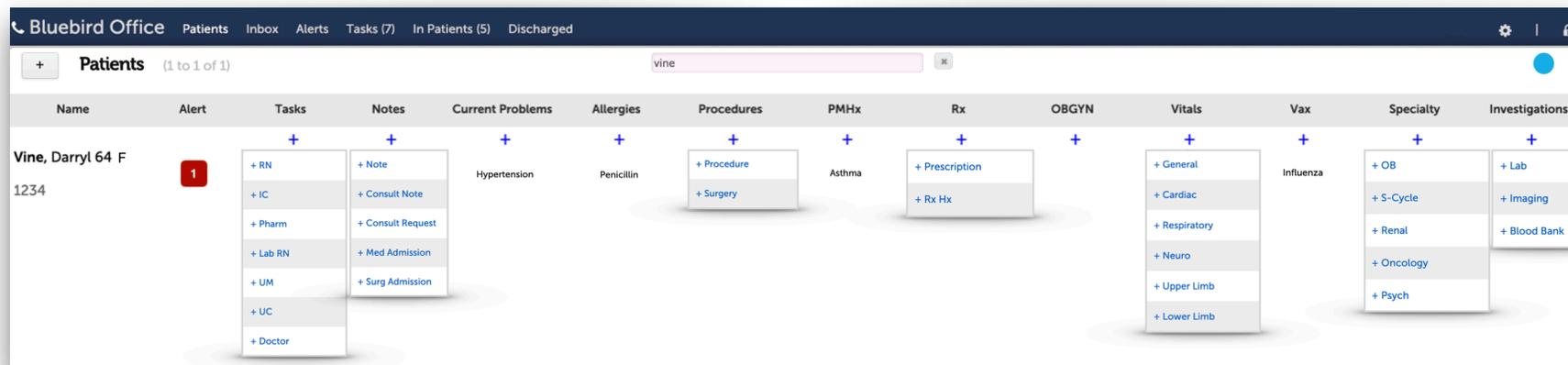
To the right of the Patients Header one finds two buttons:

**Today:** This will filter the patient line list to show patients that have or will be seen today.

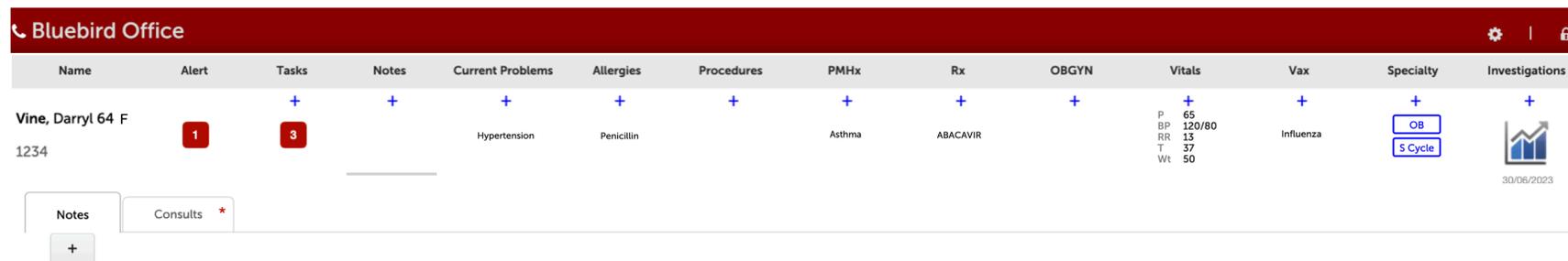
**Orphans:** This aqua button will filter the patient line list to show “patients” where the supplied patient demographics do not allow Bluebird to safely match that report to *any* practice patient. We call these orphans and typically they arrive in the Inbox from a lab. Use the Bluebird merge functionality to merge each of these orphans with a practice patient. That way the lab report will be linked to the specific patient.

Each **Patient Line** has *section specific* blue + **Icons** that open + **Icon Menus** which allow tasks (such as creating a new prescription or writing a new clinical note) to be performed quickly.

For illustration purposes all + **Icon Menus** have been opened but in practice only one is opened at a time:



Items in the + **Icon Menus** typically have corresponding + **Buttons** under the relevant tab of each drill down section. In the example below the + button opens a new Follow Up (FU) Note:



The + **Button** provides the common note choice for that Tab. Use the + **Icon Menu** for a broader range of choices.

Each **Patient Line** in the list has *Sections* holding different information:

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3	+	Hypertension	Penicillin	+	Asthma	ABACAVIR	+	P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB S Cycle	+

One can quickly see core information including that this 64 year old female hypertensive patient is allergic to penicillin and has a past medical history significant for asthma. There is one open alert (which should be dealt with immediately) and there are three outstanding tasks. Clicking any of these *Sections* will “open the drawer” (drill down) and display more detailed information about that section.

**Note:**

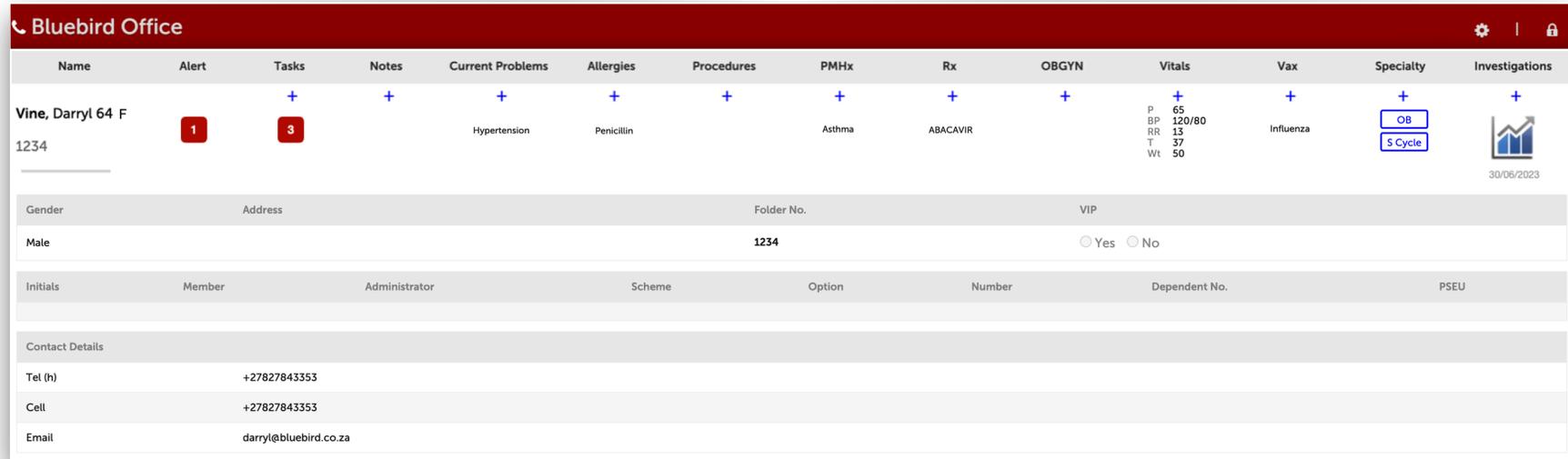
In order not to lose the found set of patients, a Drill Down is shown as a new (secondary) browser tab. Secondary Browser Tabs have a red header to indicate that they should be closed once one is finished with that specific patient.



This document will deal with each of these *Sections* and their **Drill Down** in sequence.

## Name Section

The Patient Name section holds the patient demographic data and includes the insurer (medical aid) information:



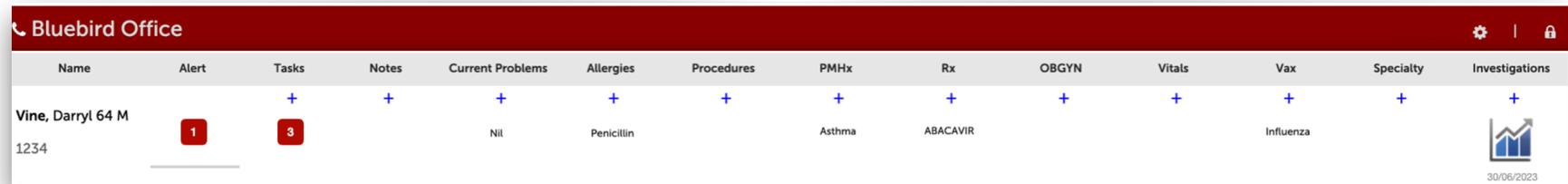
Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3	+	Hypertension	Penicillin	+	Asthma	ABACAVIR	+	P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB S Cycle	+
Gender	Address		Folder No.			VIP							
Male			1234			<input type="radio"/> Yes <input checked="" type="radio"/> No							
Initials	Member	Administrator		Scheme		Option	Number		Dependent No.		PSEU		
Contact Details													
Tel (h)		+27827843353											
Cell		+27827843353											
Email		darryl@bluebird.co.za											

Communication with the patient via Bluebird’s SMS and email functionally require that patient’s cell number and email address so it is important to try and ensure they are kept current. Bluebird enabled Practice Management Applications update this data automatically whenever that it changes in the PMA.

## Alert Section

The practice may customize alerts they wish to see.

These might be alerts from Labs e.g. abnormal value or from Hospitals e.g. advice from the pharmacist regarding a specific drug prescribed.



The screenshot shows a patient record for Darryl M. Vine (ID 1234) in the Bluebird Office system. The interface includes a header with the office name and settings, and a main table with columns for various medical categories. The 'Alert' column shows a red square with the number '1', and the 'Tasks' column shows a red square with the number '3'. Other columns like 'Current Problems', 'Allergies', 'PMHx', 'Rx', 'Vitals', and 'Vax' contain data such as 'Nil', 'Penicillin', 'Asthma', 'ABACAVIR', and 'Influenza'. A date '30/06/2023' is visible in the bottom right corner of the patient record area.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 M 1234	1	3		Nil	Penicillin		Asthma	ABACAVIR			Influenza		

If there are any open alerts for this patient a red icon (with the number of open alerts) will be shown in the **Alert Section** of the **Patient Line**. Clicking that section will open a split screen with a line list of all the alerts on the left and a management pane on the right. Open alerts are shown first.

## Tasks Section

One is able (using the blue + Icon) to allocate tasks to a:

- Doctor
- Receptionist
- Practice Nurse

If there are any open tasks for the logged in User, a red icon (with the number of open tasks) will be shown in the **Task Section** of the **Patient Line**.

If there are open tasks for other Users and no open tasks for the logged in User, the icon will be grey.

Clicking that section will open a split screen with a line list of all the tasks on the left and a management pane on the right.

Open tasks for that User are shown first.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 M 1234	1	3	+	Nil	Penicillin	+	Asthma	ABACAVIR	+	+	Influenza	+	+

## Notes Section

Every note made regarding this patient is shown here as well as every incoming consult from external specialists. These consults are shown on a separate tab which has a red \* in the tab if there are any consults.

**Bluebird Office**

**Name:** Vine, Darryl 64 F  
**ID:** 1234

**Alert:** 1 (red box)  
**Tasks:** 3 (red box)

**Current Problems:** Hypertension  
**Allergies:** Penicillin  
**PMHx:** Asthma  
**Rx:** ABACAVIR  
**OBGYN:** +  
**Vitals:** P 65, BP 120/80, RR 13, T 37, Wt 50  
**Vax:** Influenza  
**Specialty:** OB, S Cycle  
**Investigations:** + (with graph icon)  
**Date:** 30/06/2023

**Notes Section:**

Notes | Consults \*

Admission  HxOE  FU  Thumbnail  MD  Nurse  All

Date	Note	User Role	Note Type	Author
14/06/2023 18:59	Thumbnail Update	Doctor	PMHx Update	Haroon Haffejee
14/06/2023 18:59	Admission	Doctor	Surgical Admission	Haroon Haffejee
14/06/2023 18:59	Thumbnail Update	Doctor	Ongoing Problems Update	Haroon Haffejee
14/06/2023 18:59	Thumbnail Update	Doctor	OBGYN Update	Haroon Haffejee

Clicking on any line item opens that (medico-legal) note in a non editable format.

One is able to filter notes by various categories including notes made by the practice nurse.

The Consults Tab houses all external consults that came into the Inbox. In the example below, note that there is not a red \* in the consult Tab because no consults have been received for this patient:

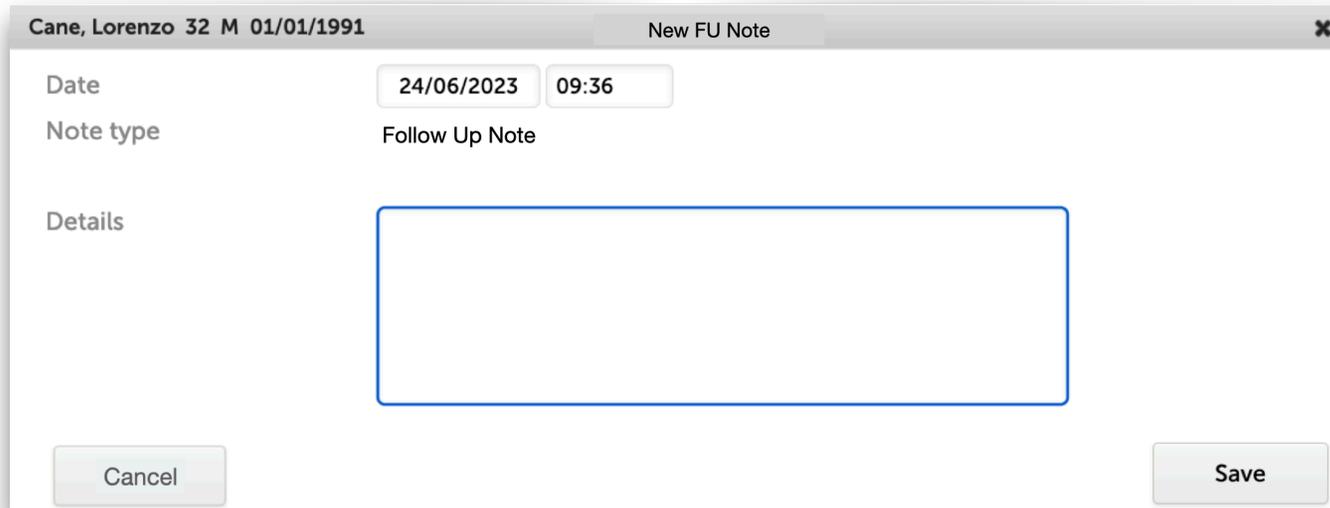
**Notes** | **Consults**

Anaesthetist  Cardiologist  Physio  OT  Speech  Dietician  Other  All

Date	Specialty	Consult	Plan	Read	Consult By
------	-----------	---------	------	------	------------

## Follow Up (FU) Note

This template is typically used to quickly enter a brief progress note.



The screenshot shows a software window titled "New FU Note" for patient "Cane, Lorenzo 32 M 01/01/1991". The window contains the following fields and controls:

- Date:** 24/06/2023
- Time:** 09:36
- Note type:** Follow Up Note
- Details:** A large, empty rectangular text area for entering the note content.
- Buttons:** "Cancel" and "Save" buttons are located at the bottom of the window.

If *any* more detail is required use the full History & Examination (HxOE) template.

### **Note:**

When using the HxOE template, only the Tabs and Fields in which one enters data are included in the note. This means that one has huge flexibility to enter either a very short note or a very complex complete clinical note. It also means that Bluebird can help calculate the appropriate billing code based on the complexity of your clinical note.

## HxOE

The **History & Physical** template is *extremely* flexible and offers sophisticated *options* including clinical decision support, specialty notes, drawing tools and imported images.

The **History & Physical** template has a row of **Primary Tabs**: Current Problem/s, Thumbnail (core history such as PMHx, allergies etc), Review of Symptoms, Physical examination, Assessment, Orders (including special investigations) and the Plan.

Primary Tabs have **Secondary Tabs** for example under the O/E Primary Tab one finds Secondary Tabs for the examination of each body part.

Cane, Lorenzo 32 M 01/01/1991 HxOE

Date: 23/06/2023 13:26 Documented By: Attending Doctor Test

Problem/s Thumbnail ROS O/E Assess Orders Plan

Gen Mental Skin Head/Neck Eyes ENT Upper L Thorax Abdomen Genital Lower L Excreta

Diagrams / Images

Set Description

Abn Skin Temp  Yes  No

Abn Surface  Yes  No

Abn Colour  Yes  No

1 Lesion  Yes  No

2 Lesion  Yes  No

Abn scalp  Yes  No

Abn Body Hair  Yes  No

Abn Nails  Yes  No

Genoderms  Yes  No

Autoimmune  Yes  No

Other

Acanthosis nigricans

Addison's pigmentation

Albinism

Argyria

Arsenic poisoning

Carotemia

Cloasma

Cyanosis

Cancel Submit

**Yes/No Radio Buttons** indicate that that parameter was assessed and if it was normal or abnormal. If normal, default text (which can be edited) is inserted in the text block but if *abnormal*, a *drop down* of appropriate choices is presented (one's own text may also be entered).

The **Set Button** insert normal values in any fields without data and is typically used as follows: Any abnormal values (in that Secondary Tab) are entered and the Set Button is then clicked to auto-fill the rest of the fields in that Secondary Tab with normal values.

The real magic is that *only* portions that have *data* entered are *included* in the final (medico-legal) note.  
e.g. the presenting complaint section has this data entered:

The screenshot shows a web form titled "New Presenting Complaint" for a patient named "Cane, Lorenzo 32 M 01/01/1991". The form contains the following fields and values:

- Presenting Complaint:** SOB
- Duration:** 48 hours
- Character:** (empty text box)
- Alleviating:**  Yes  No. Text box contains "sitting upright".
- Exacerbating:**  Yes  No. Text box contains "Lying flat".
- Severity:** (empty text box)
- Similar Before:**  Yes  No. Text box is empty.
- Additional Information:** Coughing green mucus

Buttons for "Cancel" and "Submit" are located at the bottom of the form.

This is the portion of the final note that is produced for this section.

The screenshot shows the final note output for the presenting complaint section, structured as follows:

- Presenting Complaint**  
SOB
- Duration:** 48 hours
- Alleviating:**  
sitting upright
- Exacerbating:**  
Lying flat
- Similar Symptoms in the past
- Additional Information:**  
Coughing green mucus

This means that this template can be used for a range of notes from very brief to very complex. Bluebird can use this to determine appropriate billing codes.

## Blue Accordions

Bluebird uses accordions to open and close (hide) sections.

For example, at the top of each examination **Secondary Tab** one finds a Diagrams/Images accordion. These accordions are closed by default. In the screenshot below the accordion is open and shows a skin diagram. Selecting a choice from the list on the right and then clicking on a appropriate section of the diagram will label that area with the number corresponding to the chosen lesion.

The screenshot displays the Bluebird medical software interface. At the top, there are navigation tabs: Problem/s, Thumbnail, ROS, O/E, Assess, Orders, and Plan. Below these are clinical category tabs: Gen, Mental, Skin (selected), Head/Neck, Eyes, ENT, Upper L, Thorax, Abdomen, Genital, Lower L, and Excreta. A blue header bar indicates the current section is 'Diagrams / Images'. Underneath, there are two sub-tabs: 'Diagram' (selected) and 'Images'. On the left side, a list of 19 skin lesions is provided, numbered 1 through 19. Below the list is an input field labeled 'Enter New Label' with a plus sign button. The main area features a 'Body' diagram with four human figures showing front, back, and side views. A text box labeled 'Additional Note:' is located at the bottom of the diagram area. At the bottom left of the interface is a 'Cancel' button, and at the bottom right is a 'Submit' button.

1. Laceration / Stab
2. Abrasion
3. Hematoma / Contusion
4. Deformity
5. Fracture
6. Gunshot Wound
7. Burn
8. Oedema
9. Swelling
10. Amputation
11. Avulsion/Degloving
12. Pain
13. Rash
14. Septic Foci
15. Blisters
16. Ulcers
17. Necrosis
18. Primary Skin Lesion
19. Secondary Skin Lesion

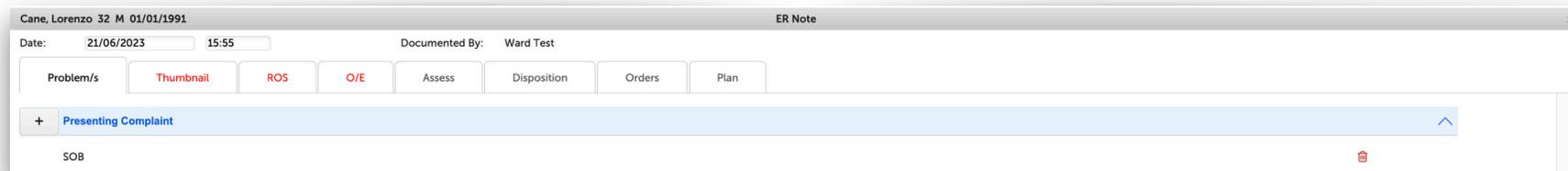
Enter New Label  +

Additional Note:

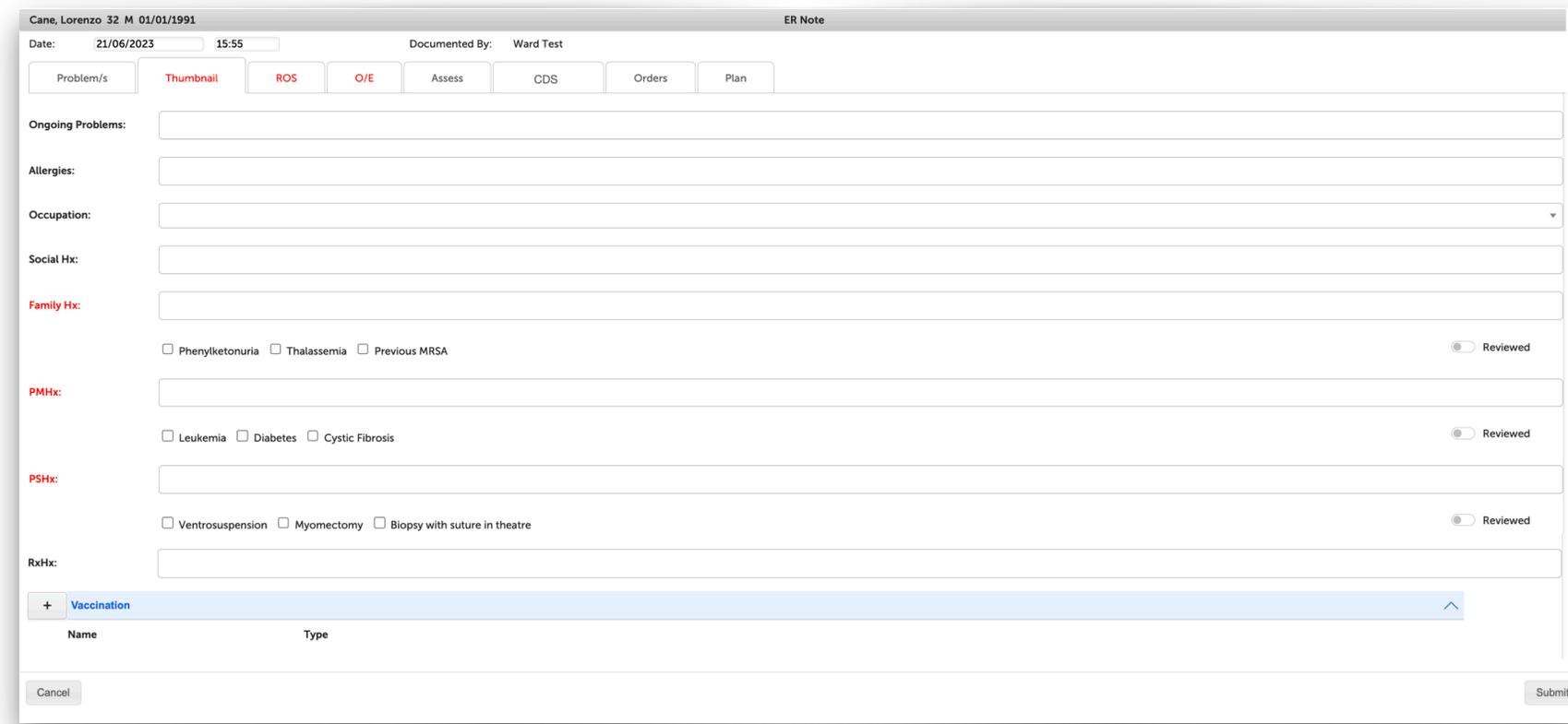
At the bottom of these choices is an ability to add custom labels.

### Presenting Complaint Driven Hx & Exam

Bluebird can use the presenting complaint to indicate (using red text) portions of the history and physical that are important for that specific presenting complaint. For example dyspnoea in the patient below has been set up to remind the clinician to review the core history (thumbnail) as well as segments of the history (ROS) and examination.



Subsections of those Tabs are similarly marked in red. This functionality is customizable.



## Differential Dx Driven CDS, Orders and ICD10

Optionally the Differential Diagnosis can drive clinical decision support and default orders.

Note that Differential Dx can have multiple values - only the first (the working diagnosis) drives CDS and Orders.

The screenshot shows a software interface for an ER Note. At the top, it displays patient information: "Cane, Lorenzo 32 M 01/01/1991" and "ER Note". Below this, there are fields for "Date: 21/06/2023 15:55" and "Documented By: Ward Test". A navigation bar contains tabs for "Problem/s", "Thumbnail", "ROS", "O/E", "Assess", "CDS", "Orders", and "Plan". The main content area is divided into sections: "Assessment" (containing "SOB x 48 hrs"), "Differential Diagnosis" (with a dropdown menu set to "CAP" and a "Description" field), "Diagnosis" (listing "J15.9 Bacterial pneumonia, unspecified"), and "Ongoing Problems" (listing "HT Bacterial pneumonia, unspecified"). Each diagnosis or problem entry has a red trash icon to its right. At the bottom left is a "Cancel" button and at the bottom right is a "Submit" button.

The Differential Diagnosis entered above is CAP (Community Acquired Pneumonia) and that drives the CDS on the next page as well as the orders on the page following that.

## Clinical Decision Support for CAP

Problem/s	Thumbnail	ROS	O/E	Assess	CDS	Orders	Plan
-----------	-----------	-----	-----	--------	-----	--------	------

### Guideline

<https://emedicine.medscape.com/article/234240-overview#showall>

Typical bacterial pathogens that cause CAP include **Streptococcus pneumoniae**, **Haemophilus influenzae**, and **Moraxella catarrhalis** (see images below). However, with the advent of novel diagnostic technologies, viral respiratory pathogens are increasingly being identified as frequent etiologies of CAP. The most common viral pathogens recovered from hospitalized patients admitted with CAP include human **rhinovirus** and **influenza**. [1]  
Presenting: fever, a productive cough with purulent sputum, dyspnea, and pleuritic chest pain.

**Standard diagnostic workup** for CAP include the following:

- Chest radiography
- Complete blood cell (CBC) count with differential
- Serum blood urea nitrogen (BUN) and creatinine levels

For patients with **severe** CAP, patients being empirically treated for methicillin-resistant S aureus (MRSA) or Pseudomonas, or patients in whom a specific etiology is suspected, additional workup may be warranted, including the following: [7]

- Sputum Gram stain and/or culture
- Blood cultures
- Serum sodium level
- Serum transaminase levels
- Lactic acid level
- CRP
- LDH
- Urinary antigen testing for Legionella
- Pneumococcal urinary antigen testing (UAT)
- multiplex PCR (26 different sputum pathogens)

**Comorbidities**  
chronic heart, lung, liver, or renal disease; diabetes mellitus; alcoholism; malignancy; asplenia; immunosuppression; prior antibiotics within 90 days; or other risk factors for drug-resistant infectio

Risk factors for **Pseudomonas** pneumonia include structural lung disease, COPD, and bronchiectasis [4]  
If Pseudomonas is suspected, therapy consists of an anti-pneumococcal and anti-pseudomonal beta-lactam (piperacillin/tazobactam 4.5 g every 6 hours, cefepime 2 g every 8 hours, ceftazidime 2 g every 8 hours, aztreonam 2 g every 8 hours, meropenem 1 g every 8 hours, or imipenem 500 mg every 6 hours).

**Prognosis of CAP**

- Negative prognostic factors in community-acquired pneumonia (CAP) include:
  - preexisting lung disease
  - underlying cardiac disease
  - poor splenic function
  - advanced age
  - multilobar involvement
  - past infection with tuberculosis
  - delayed initiation of appropriate antimicrobial therapy.

The 2019 updated **IDSA/ATS guidelines** includes the following:

- Use of **PSI** and clinical criteria to determine CAP severity and appropriate level of care
- Rapid empiric appropriate antibiotics started promptly
- Rapid fluid and electrolyte resuscitation
- thromboembolic prophylaxis

Cane, Lorenzo 32 M 01/01/1991 ER Note

Date: 21/06/2023 15:55 Documented By: Ward Test

Problem/s Thumbnail ROS O/E Assess CDS Orders Plan

+ Plan

Admit to ICU

Cancel Submit

Default orders for CAP

Once the **Plan Tab** is completed click the Submit button to review (and edit if required) the clinical document (next page) before signing it off. Once signed off it becomes a medico-legal document and cannot be altered.

Cane, Lorenzo 32 M 01/01/1991 ER Note

---

Normal A [B] I U S " </> | | | | |

**Presenting Complaint**  
 SOB  
 Duration: 48 hours  
 Alleviating:  
 sitting upright  
 Exacerbating:  
 Lying flat  
 Similar Symptoms in the past  
 Additional Information:  
 Coughing green mucus

---

Ongoing Problems  
 HT  
 Bacterial pneumonia, unspecified

---

Normal A [B] I U S " </> | | | | |

**RoS**  
**Skin**  
 Family Hx:  
 Asthma  
**Resp**  
 Dysnoea:  
 x 48 hrs  
 Duration: 48 hours  
 Greater than Normal Cough  
 Duration: 12 hours  
 Sputum:  
 Green  
 Chest Pain  
 Wheeze

---

O/E

Gen

---

Normal A [B] I U S " </> | | | | |

Normal Emotional State

---

Normal A [B] I U S " </> | | | | |

**Assessment**  
 SOB x 48 hrs

---

Differential Diagnosis

Diagnosis  
 J15.9 Bacterial pneumonia, unspecified

Disposition: Admit Ward: tsticu1  
 Orders:

Feeding: NPO  
 Activity: May be out of bed  
 Drugs:  
 Antibiotics:  
 Ampicillin: Dose: 1.0 g Administration: intermittent Duration: q 6 hourly x 4 days Route: IV  
 Labs:  
 Urea SerPl-sCnc  
 Duration: q 4 hourly  
 Imaging:  
 Thorax CXR

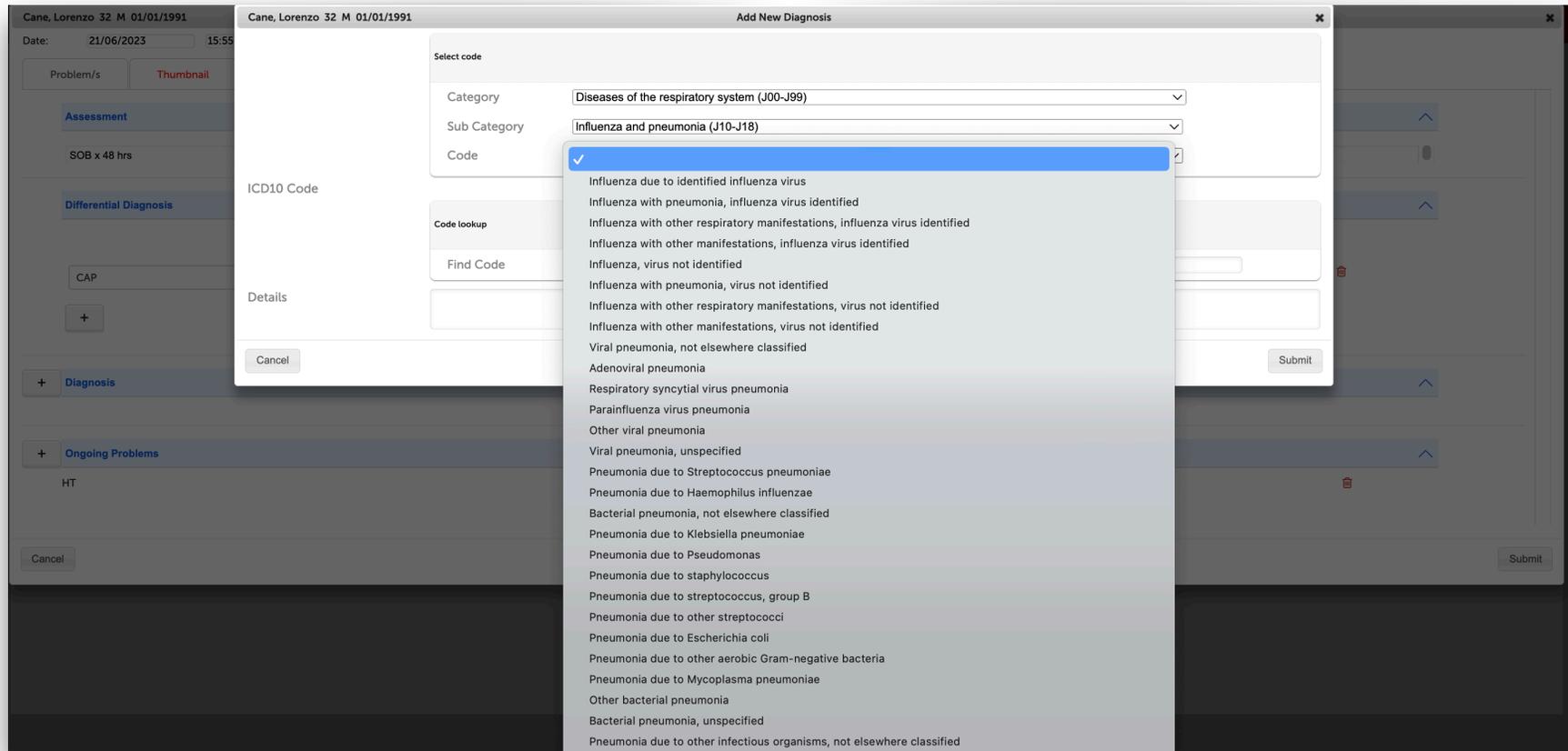
---

Normal A [B] I U S " </> | | | | |

**Plan**  
 • Admit to ICU

Cancel Submit

It is useful to have the diagnostic codes (ICD10) added to the clinical record as soon as possible. To facilitate this Bluebird provides a simple wizard that takes clinicians through two drop down lists that make coding easy.



## Thumbnail Sections

The next 7 sections on the **Patient Line** (Problems, Allergies, Procedures, PMHx, Rx, OBGYN and Vax) are all part of the core medical history or what we call the **Thumbnail**. It is the data that is saved as part of each patient's national Single Digital Health Record (**SDHR**). With the patient's consent this may be accessed by other medical practitioners or by emergency medical services (EMS). Typically this core information is initially documented on the **Thumbnail Tab** of the Hx and Physical template.

Problem/s   Thumbnail   ROS   O/E   Assess   Orders   Plan

Ongoing Problems:

Allergies:

Occupation:

Social Hx:

Family Hx:

PMHx:

PSHx:

RxHx:

LMP:

Contraception:

Gynae Surgery:

G  T  P  A  L    Description: hhescxv11

Pregnant:  Yes  No   EDD: 29/06/2023   EmodeD:

+ Vaccination ^

Name	Type	Date	Age	
COVID-19	Pfizer	<input checked="" type="radio"/> Date <input type="radio"/> +-Age	05/06/2023	

Cancel Submit

The **Patient Line** shows the current core information (without needing to click anywhere).

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3	+	+	+	+	+	+	+	+	+	+	+
				Hypertension	Penicillin		Asthma	ABACAIVR		+ P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	+ OB S Cycle	+ 
													30/06/2023

The blue + Icons provide a quick method to update any section - for example, Allergies:

Thompson, Marina 35 F 03/03/1988 Update

Date: 17/07/2023 Time: 12:02 Documented By: Haroon Haffjee

Allergies:

Reason for Change:

Clicking the relevant section opens the Drill Down line items which document the timeline of changes.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Thompson, Marina 35 F 880303004001 10123456		+	+	+	+	+	+	+	+	+	+	+	+
					Codeine		Thyroid, Asthma		LMP: 04/01/2023 5 1 0 1 2 hhescxv11 Pregnant	BP 102/90	COVID-19	OB	

Date	Note	Update To	Update From	User Role	Note Type	Author
17/07/2023 12:02	Thumbnail Update	Codeine	Nil	Doctor	Allergies Update	Haroon Haffjee
14/07/2023 17:54	Thumbnail Update	Nil	Pen	Doctor	Allergies Update	Haroon Haffjee

Clicking any line shows the reasons for that change in the Thumbnail.

Thompson, Marina 35 F 03/03/1988 Thumbnail Update

Patient: Thompson, Marina 35 F 03/03/1988 Created By: Haroon Haffjee Date: 14/07/2023 17:54

Allergies Before:  
Penicillin

Allergies After:

Reason for Change:  
Testing showed no Pen allergy

## Vitals Section

The *most recent* P, BP, RR, T and O<sub>2</sub> are shown in the Vitals Section of each patient line.

The screenshot shows a patient record for Darryl Vine, 64 F, with ID 1234. The interface includes a header for 'Bluebird Office' and a navigation bar with various tabs. The Vitals section is expanded, showing the following data:

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3	+	Hypertension	Penicillin	+	Asthma	ABACAVIR	+	P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB S Cycle	

30/06/2023

Although only the **General** Vitals are typically used in the office, for completeness all Observations (broken into the following groups) may be entered:

- General
- Cardiac
- Respiratory
- Neurological
- Upper Limb
- Lower Limb

(the latter two are important in the assessment of limb viability).

To document *new vitals* one may use either the blue **+Icon** (which pops open the menu seen below) or the **+Button** under each **Vitals Tab** on the **Vitals Drill-Down**.

Each Vitals group has it's own Tab and it's own + Button.

**Bluebird Office**

Name: Vine, Darryl 64 F | Alert: + | Tasks: + | Notes: + | Current Problems: + | Allergies: + | Procedures: + | PMHx: + | Rx: + | OBGYN: + | Vitals: + | Vax: + | Specialty: + | Investigations: +

BP 120/80

- + General
- + Cardiac
- + Respiratory
- + Neuro
- + Upper Limb
- + Lower Limb

Recorded At	13/07/2023 13:55
Temp (°C)	37
Pulse (bpm)	65
Systolic BP (mmHg)	120
Diastolic BP (mmHg)	80
RR (bpm)	13
O <sub>2</sub> Sat (%)	

## Vitals Tabs

Each Vitals Group has its own **Tab** and its own **+ Button**. Vitals can be viewed by day, week, month or All with All being the default. If one uses the daily sheet, **VCR Buttons** appear which allow one to navigate through the daily sheets. Click the middle VCR button (which shows the day being viewed and the total days in the found set) to navigate to the current day.

The screenshot shows the Vitals interface with the following components:

- General Tab:** Cardiac, Respiratory, Neuro, Limb
- Navigation:** Day (selected), Week, Month, Admission. VCR buttons: <<, <, 3 / 34, >, >>. Date: 25/05/2023
- Table View:** Table, Graphs
- Hourly View:** All
- Grid:** A grid with columns for hours 07 to 06 and rows for Temp (°C), Pulse (bpm), Systolic BP (mmHg), and Diastolic BP (mmHg). The value 36.5\* is shown in the 14:00 cell for Temp.

When one sees an \* in the hourly cell, it means more than one vitals has been recorded in that hour. Click it to move to the All tab:

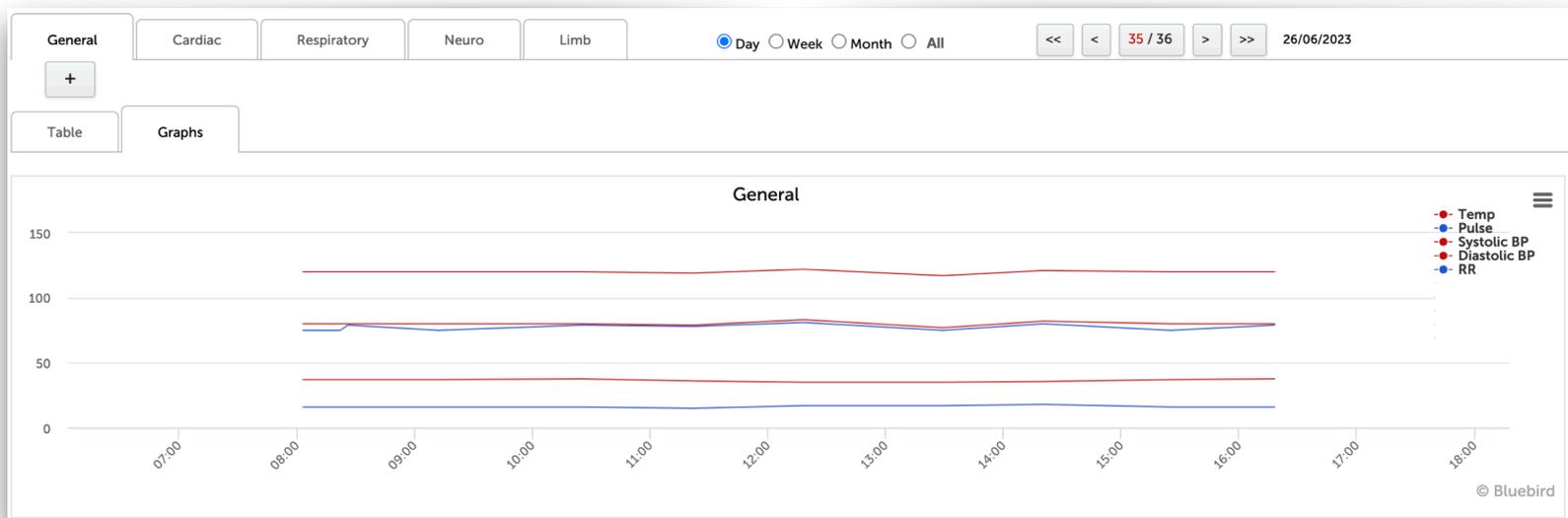
The screenshot shows the Vitals interface with the following components:

- General Tab:** Cardiac, Respiratory, Neuro, Limb
- Navigation:** Day (selected), Week, Month, Admission. VCR buttons: <<, <, 3 / 34, >, >>. Date: 25/05/2023
- Table View:** Table, Graphs
- Hourly View:** All
- Table:** A detailed table showing vitals recorded at 14:42 and 14:44.

Recorded At	14:42	14:44
Temp (°C)	36.5	36.5
Pulse (bpm)	86	
Systolic BP (mmHg)	122	
Diastolic BP (mmHg)	81	

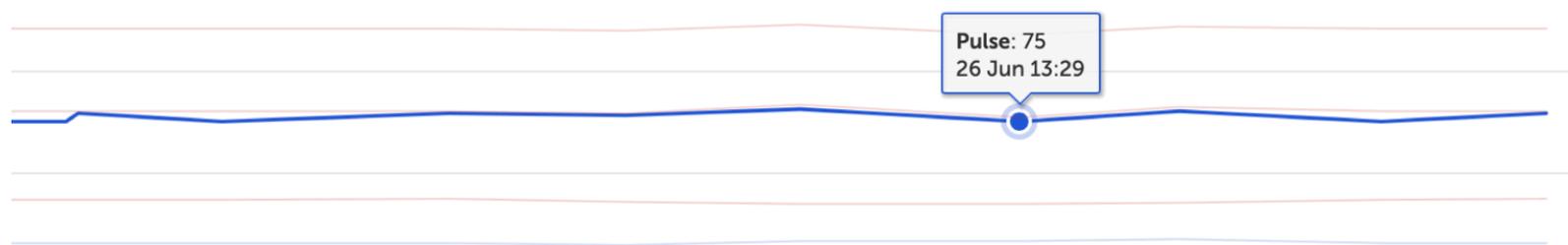
## Graphs

All information may also be viewed graphically.



In this case it has been elected to view vitals by day (which would be unusual in most practices) but this example was chosen to demonstrate the VCR buttons that appear when daily graphs are chosen. The VCR buttons enable navigation between days in the found set.

One may mouse over any portion of the graph to see an individual Data Point.

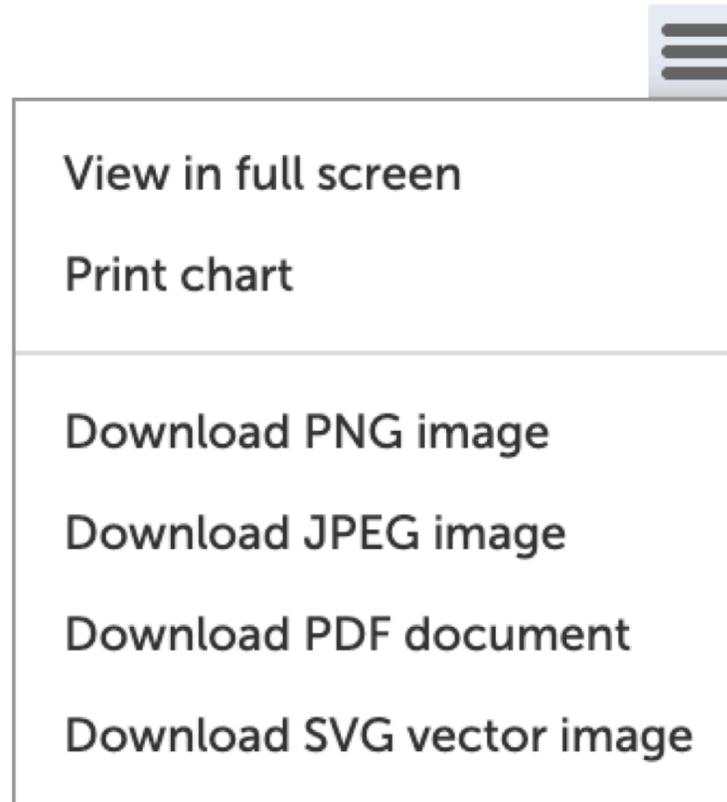


If one selects only one vital - in the example below only the pulse rate has been selected - the **Y axis** will adjust to show *only* the **range** for that specific vital and, as in the case below, this will show variation that might have not been obvious if all parameters were charted.



## Data Download

As with all Bluebird charts, tables may be downloaded to excel and graphs downloaded in multiple image formats:



## + Buttons

General Cardiac **Respiratory** Neuro Limb

Day Week Month Admission

<< < 1 / 34 > >> 23/05/2023

+

The **+Button** opens the corresponding **Data Entry Form** e.g. clicking the **Respiratory Tab** **+Button** opens this data entry form:

Hurley, Amber 32 F 13/01/1991 Respiratory Vitals

Date: 25/06/2023 Time: 15:28

Recorded At: 25/06/2023 15:28

RR: (bpm)

O<sub>2</sub> Sat:

FIO<sub>2</sub>:

Sup O<sub>2</sub>:

Method:

Air Entry A L:

Air Entry A R:

Air Entry B L:

Air Entry B R:

Peak, Flow: (L/min)

**Ventilator**

Mode:

Rate Pt: (L/min)

Rate M: (L/min)

Tidal V Pt: (ml)

Tidal V M: (ml)

Min V:

Alarm:

Peak IP P: (cmH<sub>2</sub>O)

Peak IP M: (cmH<sub>2</sub>O)

Plateau P: (cmH<sub>2</sub>O)

PEEP: (cmH<sub>2</sub>O)

Pressure Sup: (cmH<sub>2</sub>O)

Peak F / Insp P: (L/min)

Sensitivity: (cmH<sub>2</sub>O)

I.E. Ratio: (L/min)

Cuff Pressure: (cmH<sub>2</sub>O)

ET Length: (cm)

Humid. H<sub>2</sub>O: (mgH<sub>2</sub>O/L)

V.Temp: (°C)

Cancel Submit

## Specialty Section

Use the + Icon in the Specialty Section to create a new specialty form such as an antenatal sheet or a stimulation sheet for infertility.

The screenshot shows a patient record for Darryl Vine, 64 F, with ID 1234. The Specialty dropdown menu is open, showing the following options: + OB, + S-Cycle, + Renal, + Oncology, and + Psych. The + OB option is highlighted with a blue border. The patient's current problems include Hypertension, and their allergies include Penicillin. The patient is on ABACAVIR. The Specialty section shows an active OB sheet with a blue icon.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3	+	Hypertension	Penicillin	+	Asthma	ABACAVIR	+	P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB	 30/06/2023

If there is an active sheet (in the example above an antenatal sheet), a blue icon will be shown in the Specialty Section. Clicking that icon will open the specialty sheet. Once a sheet has been made but is no longer active (in the example above the baby might have been delivered) the icon will become grey.

The next 2 pages show examples of an antenatal sheet and an infertility stimulation sheet.

## Antenatal Sheet

Antenatal
Labour
Delivery
3rd Stage
New Born
6/52 PostPartum

List All Pregnancies

Risk
0
1
0
1

Name:

Father:

Folder No:

Gestational Age:

Current Date:

Attending Doctor:

Referral:

Blood Group:

Maternal Age:

EDD:

by:

Antenatal Vitamins:

Allergies:

Booked:

G
5
T
1
P
1
A
3
L
2

Description

Reminder Note

Problems:

Labour Floor Copy:

GP Letter:

Antenatal Classes:

Hospital:

Pediatrician:

Breast Feeding:

Epidural:

Contraception:

Additional Information

Placenta:

Cat:

Sex:

Date	GA	Urine		Hb	Wt	BP	SFH	Lie	FHR	FM	Other	FW	TCA
	(Wks)	P	G	(g/dl)	(Kg)		(cm)					(gm)	(Wks)
22/02/2023 09:51	40.0	-	+	12	62	110/60	36	C	145	+	Anxious re: pain relief	3400	1

### Notes:

- Bluebird provides a tool to measure risk profiles (Pre-pregnancy, PastOB, Current Pregnancy and Total Risk) which helps plan the most appropriate location for delivery
- In the example above, only the last antenatal visit is shown

More detail regarding the Complete OB Module, including in-hospital and newborn care can be found here: [intelms.com/954](https://intelms.com/954)

Copyright 2023  
Phone (+27) 87 551-7644

Intelligent Medical Systems (Pty) Ltd  
[www.intelms.com](https://www.intelms.com)

Page 32  
[support@intelms.com](mailto:support@intelms.com)

## Infertility Stimulation Sheet

This specialty module facilitates the documentation of the daily parameters that may need to be recorded during a stimulation cycle:

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations																		
<b>Mthembu, Aicha</b> 25 F 7708240043084 1003947873		+	+	+	+	+	+	+	+	+	+	+	+																		
				Testing the ongoing problems, Adding a new problem, Adding another problem for testing 03022023, Added today for	Penicillin		Cellulitis	ABACAVIR, ABACAVIR, LAMIVUDINE, Added today for testing 03022023, Acyclovir, Amoxicillin, Amikacin	LMP: 02/02/2023 5 5 5 5 5	BP 110/60 O <sub>2</sub> 1	Influenza, Hepatitis B, Meningococcal, Meningococcal	S Cycle																			
<b>Stimulation Cycle:</b> 10/02/2023																															
	L Follicle	R Follicle	Endo	Mucus	E2	LH	AMH	FSH	bHCG	FSH	HCG	Clomiphene	Vit	HMG	Progesterone	Lupron	E2	E+P	Ovitrelle	Cetrorelix	Pergoveris	Gonal F	Decapeptyl	Lucrin	Insemination	Embryo Biopsy	Egg Retrieval	Embryo Transplant	TCA	Notes	
	#	mm	#	mm	mm	pg/ml	IU/l	pmol/l	IU/l	mIU/ml	IU	IU	mg	mg	mg	mg	cc	mg	mg	IU	IU	mg	mg						Days		
📅 10/02/2023 Fri 1																															
📅 11/02/2023 Sat 2																															
📅 12/02/2023 Sun 3																															
📅 13/02/2023 Mon 4																															
📅 14/02/2023 Tue 5																															
📅 15/02/2023 Wed 6																															
📅 16/02/2023 Thu 7																															
📅 17/02/2023 Fri 8																															
📅 18/02/2023 Sat 9																															
📅 19/02/2023 Sun 10																															
📅 20/02/2023 Mon 11																															

## Investigations Section

The blue + Icon under the **Investigations Header** allows one to create requisitions which may either be printed or, if your service provider is Bluebird enabled, may be sent electronically to the lab, radiologist or to the blood bank.

A big advantage to both the practice as well as the service provider in using the electronic requisitions is that it obviates the need to recapture data from a paper sheet along with all the data capture errors that inevitably occur.

The screenshot shows the Bluebird Office interface for a patient named Darryl Vine. The interface is organized into columns for different medical data points. The 'Alerts' column shows 1 alert, and the 'Tasks' column shows 3 tasks. The 'Current Problems' column lists Hypertension, and the 'Allergies' column lists Penicillin. The 'PMHx' column lists Asthma, and the 'Rx' column lists ABACAVIR. The 'Vitals' column shows a weight of 50 and a date of 30/06/2023. The 'Specialty' column shows OB. The 'Investigations' column has a blue plus icon and a dropdown menu with options for '+ Lab', '+ Imaging', and '+ Blood Bank'.

Name	Alert	Tasks	Notes	Current Problems	Allergies	Procedures	PMHx	Rx	OBGYN	Vitals	Vax	Specialty	Investigations
Vine, Darryl 64 F 1234	1	3		Hypertension	Penicillin		Asthma	ABACAVIR		P 65 BP 120/80 RR 13 T 37 Wt 50	Influenza	OB	+ + Lab + Imaging + Blood Bank

Examples of each of these electronic requisition forms are shown on the next 3 pages.

## Lab Requisition

Use the blue + Icon to open a new **Lab Order Form**:

The screenshot shows a 'Requisition' window with the following details:

- Order:** Date: 18/06/2023, Time: 15:22
- General:** Selected. Other options: Microbiology, Cytology, Histology, Blood, Imaging.
- Clinical:** Chest pain
- Indication:** infection (dropdown), Cardiac (dropdown), Device infections (dropdown)
- Recurring:**
- Urgent:**
- Documented By:**  (checked), Attending Doctor Tt
- Ordered By:** Attending Doctor Tt
- Buttons:** Requisition, ICD 10 Calculator, c.c. Doctor/s, Tests Ordered
- Profiles:** + Show
- Service Provider:** BB
- Allergy:** Allergy (Allergy)
- Drugs:** Abuse / Overdose (highlighted with a blue '+' icon), Monitoring
- General:** General
- Chemistry:** Allergy (Chemistry), Coagulation (Chemistry), Diabetes, Drugs, Endocrinology: Other, Iron / Vit, Lipids / CAD risk, Metabolic / Genetic (Chemistry), Semen
- Immunology:** Auto-immune
- Mycobacteriology:** Sputum, NPA / Tracheal / Bronchial
- Neonatal:** Perinatal
- Other:** Hypertension / Other, Microscopy
- Endocrinology:** Adrenal, Parathyroid
- Find Test:** (text input field)
- Buttons:** Cancel, Submit

## Imaging Requisition

Use the blue + Icon to open a new **Imaging Order Form**:

Vine, Darryl 64 M 17/01/1959 Requisition

Order Date: 21/06/2023 Time: 08:22

General  Microbiology  Cytology  Histology  Blood  Imaging

Clinical: I20 Angina pectoris

Urgent:  Documented By:

Indication:    Ordered By:

Order Later:

---

Requisition | ICD 10 Calculator | c.c. Doctor/s | Tests Ordered | ICD 10: I20 Angina pectoris

Profiles: + Show

Service Provider:  BB

Safety Check:  
Is the patient a high risk infection?  Yes  No  Unknown  
Is the patient diabetic?  Yes  No  Unknown  
Is the patient on Metformin?  Yes  No  Unknown  
Does the patient have any allergies?  Yes  No  Unknown

XR

MRI

US

Mammography

Bone

Fluroscopy

Nuclear Med

## Blood Bank Requisition

Use the blue + Icon to open a new **Blood Requisition Form** to be sent to the blood bank:

Vine, Darryl 64 M 17/01/1959

Order Date: 19/06/2023 Time: 12:54

Date of birth: 17/01/1959

Clinical: I20 Angina pectoris Indication: x Hgb<7 Hct<25 RBC <2.5

Doctor:  Doctor  Verbal  Telephone  Transcribed

Ordered By: Lindsay Morley Documented By: Lindsay Morley

ICD 10: I20 Angina pectoris

Requisition: ICD 10 Calculator c.c. Doctor/s Tests Ordered

Service Provider:  Blood Bank

Consent:  Yes  No

Request:  Type & Screen  Cross Match  Universal Donor

Leucocyte reduced:  Yes  No

Cryo Poor:  Yes  No

Low Titre Anti-T:  Yes  No

Patient History

Blood group: ABO

Rh:  Unknown

Transfusion Hx:  Yes  No

Adverse events:  Date of last transfusion: 19/06/2021

Parameter	Value	Date	Time
Hb	8.3	18/06/2023	10:54
Platelets	288	16/06/2023	14:00
INR	1.1	14/06/2023	09:45

Cancel Save

All doctor's orders requesting the blood bank to group and screen or to create blood products for this patient are listed under the **Requisitions Tab** under the Investigations Drill Down.

Click any line item to review the original Blood Bank Requisition (in a read only format).

## Results

Clicking the **Blue Lab Icon** (far right) on the Patient Line brings up the **SI** (Special Investigation) **Tabs** with the cumulative table selected by default. All labs for this patient are shown. A line list of all SI results is shown under the “All” tab.

### Notes:

- **Orphaned** results, until merged, cannot be allocated to a specific patient and will not be shown.
- When present, a red dot above the blue lab icon indicates that there are one or more abnormal septic lab results (such as high WCC, poor renal or liver function or a raised PCT).
- The date and time below the icon, shows the time that the *last* lab result arrived in Bluebird (note: *arrived not* the collection date). This is particularly useful when one is waiting for an urgent result.
- If your practice has set up specific groups of tests they wish to see at once, for example tests specific to a renal patient, one can filter by that group using the “**Test Group**” filter.



Name: Vine, Darryl 64 M  
 Alert: 1  
 Tasks: 3  
 Notes: +  
 Current Problems: Nil  
 Allergies: Penicillin  
 Procedures: +  
 PMHx: Asthma  
 Rx: ABACAVIR  
 OBGYN: +  
 Vitals: +  
 Vax: Influenza  
 Specialty: +  
 Investigations: +

1234  30/06/2023

Graphs | Tables | POC | Isolates [0] | Histo [0] | Cyto [0] | Immunology [0] | Radiology [0] | Other [0] | All [0] | Requisitions [1] | Transmission Checklists

Test Group: All | From: 5 | 1 | 2016 | To: 21 | 1 | 2016 | Filter | Clear | Print Table

Showing test results from 05/01/2016 to 21/01/2016

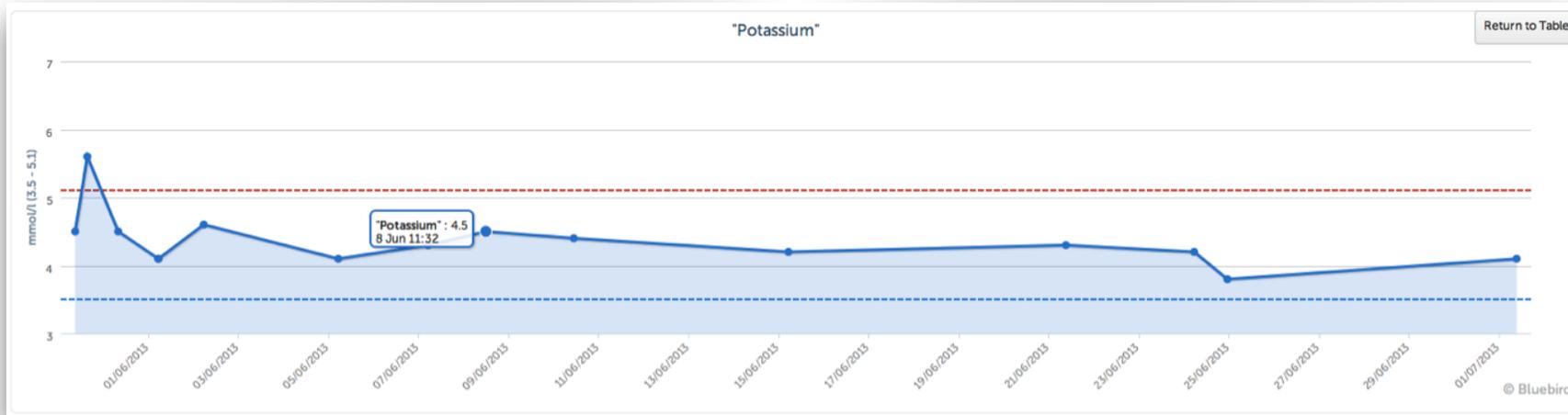
**Disclaimer: Unmatched patient results not included.**  
 These tables are designed for blood results. Labs do not always provide specimen information in a machine readable format, therefore non-blood results might be included. Use the full report for individual patient care.

		Satterfield, Weldon 07/09/1965 M						
Test name	Reference	12/01/2016 13:52	12/01/2016 15:00	15/01/2016 03:40	16/01/2016 03:40	17/01/2016 09:45	18/01/2016 03:30	20/01/2016 03:30
CHEM								
Sodium	136 - 145 mmol/l	139			137	135 L	137	137
Potassium	3.5 - 5.1 mmol/l	3.9			3.9	3.6	3.6	4.4 #
Chloride	98 - 107 mmol/l	104			99	97 L	99	101
CO2	22 - 29 mmol/l	25			29	27	27	23
Anion Gap	8 - 20 mmol/l	14			13	15	15	17
CRP	< 5 mg/l	6 # H						
Haematology								
Hemoglobin	14.3 - 18.3 g/dl	7.2 *L		6.9 *L	9.9 # L	13.4 # L	13.0 L	12.3 L
Hct	43.0 - 55.0 %	22.9 # L			29.7 # L	39.5 # L	38.1 L	36.5 L

**Notes:**

1. Results are colour coded by Bluebird (red = high, blue = low). **Note:** Sometimes labs also add their own markers to abnormal results - in the example above, the lab has included a # to one result and a \* to another - Bluebird shows whatever that specific lab places in the result.
2. Clicking the *numeric result* brings up the original full lab report as sent out by the lab.
3. Clicking the *test name* brings up a graph specific for that specific test (the graphs tab shows multiple tests simultaneously) – hovering over data points on the graph brings up detail about the data point – see below.
4. **Orphaned lab results** (results that cannot be matched to a HIS record) will NOT show on these cumulative tables and graphs and is one of the many reasons to deal actively with orphaned labs.
5. The common reason for a paper lab report not being in your office Bluebird is because the practice was not copied (check the paper report).
6. Occasionally an “old” report reappears in Bluebird. This is because the lab has resent the report (usually because the report was updated or the doctor requested a resend).

Clicking the *test name* brings up a graph specific for that test.



One can quickly view subsets of special investigations (Micro, Histo, XR) by switching tabs:



The Requisition tab shows all electronic requisitions for this patient.