



ASCEND CV[®] Administration Quick Start Guide

Version 5.0

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About this Guide

This Guide describes how to use the ASCEND CV® administration interface, including

- Managing system operation
- Managing patients and providers
- System configuration

In addition to reviewing this Guide, you should review the following documentation:

- The *ASCEND CV Reporting Quick Start Guide*, which describes the ASCEND CV reporting interface.
- Your reporting modules' *online Usage Guides*, titled:

Echocardiography
Vascular
Nuclear Cardiology
Cardiac Catheterization
Electrophysiology
Cardiac CT
Cardiac MR

which contain multiple PDF presentations detailing how to use the reporting interface to prepare clinical reports.

- Documentation for the master worklist interface that you will use to select a study for reporting.
- Documentation for the image review interface that you will use to review the images associated with a study.

ASCEND CV supports both **lab administrator** and **system administrator** roles. This document also covers the administrative functions that can be performed by each.

ASCEND CV Lab Administration

Lab administrators, also sometimes referred to as Super Users, have the ability to:

- reconcile/recreate cases
- create new cases or studies
- reopen signed studies
- view the audit log
- view and terminate user sessions
- assign studies to technologists, physicians, and practices, for a specific facility and one or more reporting modules
- manage the available ASCEND CV reporting modules and their corresponding universal service id mappings.

ASCEND CV System Administration

System administration includes the ability to:

- perform all ASCEND CV system configuration functions – including administration of users, participant lists, and knowledge bases
- it also includes most of the capabilities granted to a lab administrator; except for re-opening signed studies for amendment or addendum (unless otherwise explicitly granted).

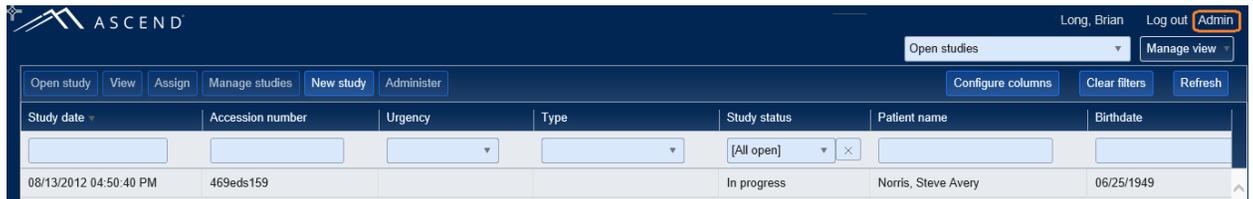
Proper Application Server System Administration

Site staff are responsible for system administration of the entire ASCEND CV server environment, including system monitoring and backup/restore of the ASCEND CV and ASCEND Analytics™ databases. Consult the *ASCEND CV IT Guidelines* document for more information on these tasks.

ASCEND CV Administration Interface

To open the ASCEND CV administration interface:

- Use Microsoft Internet Explorer to navigate to your institution’s ASCEND CV application.
- Enter your ASCEND CV **User name** and **Password**.
- Click the **Admin** button in the upper right-hand corner of the ASCEND CV worklist interface.



Administration Interface

The ASCEND CV administration interface consists of a set of tabs. Clicking a tab displays the associated interface for managing or configuring that part of the ASCEND CV system.

A **system administrator** will see all available administrative tabs in the ASCEND CV administrative interface, as follows:



A **lab administrator** (that is not also a system administrator) will have access to a subset of those tabs and capabilities available in the ASCEND CV administrative interface, as follows:



Depending on the width of your browser window, you may not be able to see all of the tabs at once. Should this occur, a pair of arrows will appear on either end of the tab bar.



You can use these arrows to scroll through all tabs, even those not on screen.



Managing System Operation

Sessions Tab

The **Sessions** tab lists any active reporting sessions (user name, IP address of the user's workstation, idle time).

User	User name	Location	Idle (m:s)	
Roberts, Jim	jroberts	44.14.12.44	0:00	Terminate

Clicking the **Terminate** button forces the selected reporting session to close. Note that users will be automatically logged out and their report session closed after the **Inactivity logout period** (idle time) specified on the **Settings** tab.

Errors Tab

The **Errors** tab lists orders that could not be automatically processed because of missing, incomplete, or incorrect study/patient information. The image below shows an order with an unrecognized Universal Service ID. These fields are used to determine the reporting module for a study and are required in order to process an order.

Administer		Delete						Clear filters	Refresh
Source date/time	Error	Patient name	Accession number	MRN	Knowledge base	Status	Responsible physician		
06/01/2016 9:42 AM	Unknown universal service identifier: "CTAStudy"	Barnet, Stephanie	CT1619	12077		Pending order			

Selecting an order from the list and clicking the **Administer** button displays a form for editing the selected order.

Administer - Order editor

<p>Admission</p> <p>Account number: 10041889</p> <p>Arrival date/time: 06/01/2016 09:42 AM</p> <p>Admission: Observation</p>	<p>Patient</p> <p>Barnet, Stephanie</p> <p>MRN: 12077</p> <p>DOB: 02/22/1948</p> <p>Edit patient</p> <p>Change patient</p> <p>Create patient</p>
<p>Order</p> <p>Accession number: CT1619</p> <p>Study instance ID:</p> <p>Placer order number: 36099145</p> <p>Ordered date/time: 06/01/2016 09:42 AM</p> <p>Universal service ID: CTASStudy [invalid]</p> <p>Order description: CTASStudy</p> <p>Urgency: Routine</p> <p>External ID:</p> <p>Order status:</p> <p>Order canceled reason:</p> <p>Facility: East Campus</p>	<p>Case</p> <p>Lab discharge date/time:</p> <p>Location performed:</p> <p>Procedure room:</p> <p>Encounter MRN: 12077</p> <p>Study</p> <p>Start date/time:</p> <p>Stop date/time:</p> <p>Providers</p> <p>Referring physician: Abrahams, Tim A, MD</p> <p>Ordering physician: Abrahams, Tim A, MD</p> <p>Consulting physician: Worthington, Mark T, MD (00100 ...)</p> <p>Edit providers</p>

[Cancel order](#) [Reset study](#) [Save](#) [Cancel](#)

A selected error entry can also be deleted using the **Delete** button, which also requires user confirmation:

Warning

Are you sure you want to delete the selected order?

[OK](#) [Cancel](#)

The patient information associated with the order can be edited by clicking the **Edit patient** button. Refer to the *Patient tab* section of this Guide for more information on editing patient data, including required fields (!) and medical record numbers (MRN).

Administer - Order editor: Patient demographics

Barnet, Stephanie

Salutation

First name SSN

Middle name MPI

Last name Universal record #

Family suffix

Professional suffix

Address 1

Address 2

City

State / province

Zip / postal code

Country

Email

Business #

Home #

Fax #

Birth date

Birth gender

Ethnicity

Race

Marital status

Primary language

Foreign health insurance

Indian health service

Medicaid

Medicare

Military health care

No health insurance

Private health insurance

State specific health care plan

Death indicator

Death date/time

Assigning authority	Type	ID
MRN	MRN	12077

If the patient data in an order is incomplete and the patient already exists in the ASCEND CV database, you can use the existing patient data to complete the order by clicking the **Change patient** button and selecting the patient from the displayed list of patients.

Note that the patient list is filtered across all portions of the patient name using the text in the **Search** filter (“St” in the example below).

Administer - Order editor: Patient selector

Search: St

Name	MRN	DOB
Norris, Steve Avery	1365396	06/25/1949
Styles, Hilary Harding	1365398	08/05/2002

OK Cancel

You can change this filter by typing in a different name or deleting the search text.

Administer - Order editor: Patient selector

Search: S

Name	MRN	DOB
Norris, Steve Avery	1365396	06/25/1949
Simpson, Homer Jay	1	01/01/1956
Simpson, Marge	2	12/12/1956
Styles, Hilary Harding	1365398	08/05/2002

Selecting a patient from the list and clicking the **OK** button changes the patient data in the order to match the selected patient.

You can also associate the invalid order with a new patient that you create yourself by pressing the **Create patient** button. The process for creating a patient is described further in the “Managing Patients and Providers” section of this document.

When you have completed correcting the missing or incorrect order information, click the **Save** button on the **Administer** form to save your changes. The edited order will then be resubmitted for automatic processing. Note that the edited order may be displayed on the **Errors** tab for a brief time until it is processed. Use the  **Refresh** button on the **Errors** tab to refresh the list of incomplete/incorrect orders.

If the order was sent or created by mistake, use the **Cancel order** button on the **Administer** form to cancel the order.

Unmatched Data Tab

The **Unmatched data** tab lists data sets from clinical devices that have not been matched with a study. This typically occurs because an imported data set has incomplete or incorrect identifiers that fail to match identifiers for a study in ASCEND CV (e.g., study accession number, DICOM study instance UID, patient last name, first initial, date of birth, or medical record number).

Unmatched data imports						
[Edit] [Assign] [Delete] [Refresh]						
Errors	Source	Time stamp	Accession number	Patient name	MRN	Birth date
An error occurred while reading from the store provide...	TOMTEC_SC	06/26/2016 12:04 AM	267dps568	Head, Lisa	3332356	08/17/1975
The data does not currently match any studies, but it...	TOMTEC_VASCULAR_...	06/26/2016 12:04 AM	267dps568	Head, Lisa	3332356	08/17/1975
The import patient SSN 184-38-9676 does not match th...	GE_CARDIOLAB	06/26/2016 12:03 AM	469eds159	Norris, Steve Avery	1365396	06/25/1949
The import DICOM Study Instance UID 1.2.888.777777.6...	TOMTEC_SC	06/26/2016 12:03 AM	12453	CARSON, MITCHELL	3162935	12/25/1947
The import patient SSN 123-23-2123 does not match th...	MERGE_HEMO	06/26/2016 12:02 AM	246epd249	Howse, Milford Linton	1366354	03/29/1932

Selecting an imported data set from the list and clicking the **Edit** button displays a form for editing that study's identifiers.

Edit unmatched data import

Accession number	989898
Last name	Radke
First name	Phill
Middle name	
Birth date	6/29/1940
Medical record number	433627
Social security number	

[Save] [Cancel]

Correct the incomplete or incorrect information and click the **Save** button to save your changes. The edited data set will then be resubmitted for automatic processing. Note that the edited data set may be displayed on the **Unmatched data** tab for a brief time until it is processed. Use the **Refresh** button on the **Unmatched data** tab to refresh the list of unmatched data sets.

Alternatively, you can manually match the selected data set to a study by selecting a study from the **Available** studies list and clicking the **Assign** button. You will then be asked to confirm this assignment.

Unmatched data imports						
Edit Assign Delete		Refresh				
Errors	Source	Time stamp	Accession number	Patient name	MRN	Birth date
An error occurred while reading from the store provider's data reader...	TOMTEC_SC	06/26/2016 12:07 AM	267dps568	Head, Lisa	3332356	08/17/1975
The data does not currently match any studies, but it may automatical...	TOMTEC_VASCULAR_SR	06/26/2016 12:07 AM	267dps568	Head, Lisa	3332356	08/17/1975
The import DICOM Study Instance UID 1.2.888.77777.6666.1.9999999...	TOMTEC_SC	06/26/2016 12:03 AM	12453	CARSON, MITCHELL	3162935	12/25/1947

Available studies									
Reporting module	Type	Study date	Accession number	Patient name	MRN	Birth date	Age	Facility	Study
Filters	Filters							Filters	Filters
Cath	Unknown	03/29/2016 11:00 AM	CV-0001	Bruce, Octavia Casey III	08627 (MRN)	11/07/1957	58	West Campus	New
Echocardiography		07/23/2015 9:37 PM	ACN11151566	Catherine, Tiara	PID13700582 (...)	04/14/1945	70	East Campus	New
Cath	Unknown	07/21/2015 9:52 AM	ACN52379164	Jayson, Marianna, F	PID08023744 (...)	04/07/1972	43	East Campus	New
Cath implant	Unknown	02/15/2013 11:00 AM	246epd_49	Howse, Milford Linton	1366354 (MRN)	03/29/1932	80	East Campus	New
Nuclear cardiology		02/15/2013 1:45 AM	989898	Radke, Phill	433627 (MRN)	06/29/1940	72	East Campus	New
Echocardiography		02/13/2013 9:01 AM	12453	Carson, Mitchell	3162935 (MRN)	12/25/1947	65	East Campus	New
Echocardiography		02/13/2013 9:01 AM	698aad964	Lowell, Ralph Julius	648379 (MRN)	01/27/1943	70	East Campus	New

Finally, you can delete the selected data set – to remove a duplicate data set, for example – by clicking the **Delete** button.

Outbound Tab

The **Outbound** tab lists the data transfers that ASCEND CV sends to various external systems.

Resubmit Terminate		Refresh						
Event date/time	External system	Event type	Patient	Accession #	Type	Status	Next attempt	Description
02/03/2015 3:00 PM	CardioAnalytics	Confirm	Radke, Phill	989898		Processing	02/03/2015 3:05 PM	
02/03/2015 2:58 PM	HIS	Confirm	Liebliches, Herz M	1110287968	Diagnostic	Processing	02/03/2015 3:03 PM	
02/03/2015 2:58 PM	CardioAnalytics	Confirm	Liebliches, Herz M	1110287968	Diagnostic	Processing	02/03/2015 3:03 PM	

Routine data transfers include the following:

- When a study is opened or closed, ASCEND CV may notify the Hospital Information System (HIS).
- When a study is signed, ASCEND CV may transfer data to
 - The ASCEND Analytics database
 - The Hospital Information System (HIS)
 - Cedaron CardiacCare

Precisely which data transfers are made – and when – depends on the configuration of the ASCEND CV system and on the type of study being processed.

- If ASCEND Catalyst is configured in ASCEND CV for remote clinical training, whenever a new provider that is marked as a reporting user is added or modified, these changes are communicated to Catalyst to keep it synchronized with ASCEND CV.

By default, the **Outbound** tab lists data transfers with the following statuses:

- **Processing:** ASCEND CV is attempting to complete the data transfer. If the external system does not return a response within the **Processing interval** – found on the **Settings** tab (available only to an ASCEND CV System Administrator) – then ASCEND will attempt to retry the transfer after waiting for the **Reattempt interval** (the default value is 300 seconds).

Outbound	
Reattempt interval (seconds)	<input type="text" value="300"/>
Processing interval (seconds)*	<input type="text" value="60"/>
Number of reattempts	<input type="text" value="5"/>
Base used to calculate interval before next attempt	<input type="text" value="2"/>

ASCEND CV will retry up to the **Number of reattempts**, increasing the time between each retry until a response is received. If no response is received, ASCEND CV will attempt to resend the message after the **Reattempt interval** multiplied by the **Base used to calculate interval before next attempt** raised to the power of the attempt. In the above example this would be after 300 seconds (5 minutes), then 10 minutes, then 20, then 40, and finally 80 minutes. If there is still no response from the remote system, ASCEND CV will leave it as a failed attempt with no further reattempts scheduled.

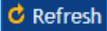
- **Failed:** The external system returned an error or did not respond. If there was no response, then retries will be attempted up to the **Number of reattempts**. Any error returned is listed in the **Description** field.

The **Status** filter can be used to list additional data transfers:

- **Successful:** The data transfer completed successfully.
- **Terminated:** The data transfer was manually terminated using the **Terminate** button. ASCEND CV will not automatically retry terminated data transfers.

You can use the **Resubmit** button to resend (or restart) a Failed or Terminated data transfer.

Note that new data transfers will not update the list displayed on the **Outbound** tab. Use the

 **Refresh** button to manually update the list of data transfers.

Reporting Modules Tab

An institution purchases a set of **reporting modules** that support structured reporting for a defined set of study types – for example, the adult echocardiography reporting module (**echo.adult**) supports structured reporting for adult transthoracic, transesophageal, and stress echocardiography studies.

The **Reporting modules** tab is used to associate Universal Service IDs with reporting modules. For each Universal Service ID (USID), you specify

- The **USID** text string that identifies the type of study. The USID is specified by your Hospital Information System (HIS) and sent to ASCEND CV as part of the HL7 order message (ORM) for a study.
- The **Label** for the USID that will be displayed in ASCEND CV (in place of the USID text string).
- The **Reporting module** associated with the USID.

- The **Workflow** associated with the USID, either **Standard** or **Stress Imaging**.

Universal service identifiers			
USID	Label	Reporting module	Workflow
CardiacEchoca20	TEE	echo.adult	Standard
CathImplantStudy	Cath	cath.implant	
CathStudy	Cath	cath	
CCTStudy	CCT	cct	
CMRStudy	CMR	cmr	
CORONARYANGIO38	Coronary angio	cath	
Echo2DandMmod48	Echo 2D & MM	echo.adult	Standard
EchoStudy	Echo	echo.adult	Standard
EchoTransthor54	TTE	echo.adult	Standard
EPStudy	EP	ep	
ExerciseStres67	Stress	echo.adult	Stress Imaging
INSERTDUALLEA109	EP	ep	
LHCWLVGGRAMCOR137	Cath	cath	
NuclearStudy	Nuclear	nuclear	Standard
PediatricEchoStudy	Echo	echo.peds	Standard
Pharmacologic158	Pharmacologic stress	echo.adult	Stress Imaging
STENTSINGLEVE218	Stent	cath	
VascularStudy	Vascular	vascular	

New Import

In addition to adding (**New**), deleting (**Delete**), and editing Universal Service IDs, you can click the **Import** button to import a comma-delimited (.csv) file of USIDs. The format requirements for the CSV file are specified below:

- List of columns (fields): USID, Label, ReportingModule, Workflow
- The first row must contain the column headings
- All columns must be present and non-empty for each USID
- The Workflow column must have the value **Default**, **Standard**, or **Stress Imaging**. Default should be used for all reporting modules **except**: echo.adult, echo.peds, and nuclear, which can be Standard or Stress Imaging.

Finally, the **Reporting modules** tab is used to specify the label for a reporting module that will be displayed in ASCEND CV (in place of the reporting module ID).

Reporting modules	
ID	Label
cath	Cath
cath.implant	Cath implant
cct	Cardiac CT
cmr	CMR
echo.adult	Echocardiography
echo.peds	Pediatric Echo
ep	Electrophysiology
nuclear	Nuclear cardiology
vascular	Noninvasive vascular

Note that you must click the **Save** button to save the edited reporting module data to the ASCEND CV database.

Audit Log Tab

The **Audit log** tab lists events related to the use of the ASCEND CV system, including:

- User logins and logouts
- Starting and ending of reporting sessions
- Opening, reviewing, and editing of studies
- Changes to study status, including study creation (“New”), “In-progress”, “To be read”, “Signed”, and “Amended”
- Changes to participant roles
- Reviewing of patient data records
- Importing of data from external systems/devices
- Resetting of studies
- Creation of a new ASCEND CV user account
- Addition or modification/editing of a provider
- Reporting Knowledge Base (KB) configuration set as active

Audit log							
Date/time	User	Event	Event details	Patient	MRN	Accession #	Service ID
11/09/2015 12:10 AM	System (System)	Study status changed	To: Importing	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	Role assignment changed	Referring physician: de Kort, Martin F...	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	Role assignment changed	Ordering physician: Kec, Robert, MD	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	Study created	Source: HIS	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	Case created	Source: HIS	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	External data received	Source: HIS Accession No: CV-13-010...	Tanner, Evan	433627c	CV-13-0100736	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	External data received	Source: Secondary Capture Accessio...	Head, Lisa	3332356	267dps568	
11/09/2015 12:10 AM	System (System)	External data received	Source: TomTec DICOM Vascular Acc...	Head, Lisa	3332356	267dps568	
11/09/2015 12:10 AM	System (System)	External data received	Source: HIS Accession No: 267dps56...	Head, Lisa	3332356	267dps568	Vascular Vascul...
11/09/2015 12:10 AM	System (System)	External data received	Source: Secondary Capture Accessio...	Wickham, Roland	3332355	267dps567	
11/09/2015 12:09 AM	System (System)	Study status changed	To: New	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	External data imported to s...	Source: TomTec DICOM Vascular	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Study opened for edit		Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Study status changed	To: Importing	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	External data received	Source: TomTec DICOM Vascular Acc...	Wickham, Roland	3332355	267dps567	
11/09/2015 12:09 AM	System (System)	Study status changed	To: New	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	External data imported to s...	Source: HIS	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Consulting physician: Worthington, Ma...	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Referring physician: Abrahams, Tim, ...	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Ordering physician: Abrahams, Tim, MD	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Study opened for edit		Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Study status changed	To: Importing	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Consulting physician: Worthington, Ma...	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Referring physician: Abrahams, Tim, ...	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Role assignment changed	Ordering physician: Abrahams, Tim, MD	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Study created	Source: HIS	Wickham, Roland	3332355	267dps567	Vascular Vascul...
11/09/2015 12:09 AM	System (System)	Case created	Source: HIS	Wickham, Roland	3332355	267dps567	Vascular Vascul...

By default, the audit log is

- Sorted in descending order based on date/time (most recent first). You can sort and filter the log using the heading (top row) and filter (second row) controls. See the *Sorting and Filtering Lists* section of this Guide.

Though the dates displayed in the audit log are down to the minute, the individual entries – when sorted by date/time – are ordered by millisecond.

- Displayed in pages of 50 entries each. You can select which page to display and the page size using the controls at the bottom of the log.

Note that new audited events will not update the list displayed on the **Outbound** tab. Use the

 button to manually refresh the audit log contents.

Clicking the **Export** button saves a copy of the audit log in comma-delimited (.csv) form on your computer. Note that the export operation may take several minutes, depending on the size of the export.

Managing Patients and Providers

Patients Tab

The **Patients** tab is used to edit patient data stored in the ASCEND CV database.

Search:	
Carson, Mitchell	12/25/1947
Carter, Stuart, Sr.	12/23/1957
Chamberlin, Charles R	06/21/1956
Howse, Milford Linton	03/29/1932
Liebliches, Herz M	09/19/1953
Lowell, Ralph Julius	01/27/1943
Norris, Steve Avery	06/25/1949
Radke, Phill	06/29/1940
Rains, Mya Shawna	09/25/1952
Roesch, Peter	08/17/1975
Simpson, Homer Jay	01/01/1956
Simpson, Marge	12/12/1956
Smith, Michael	10/25/1992
Styles, Hilary Harding	08/05/2002

New

You can filter the patient list by entering a portion of a name in the **Search** box.

Selecting a patient from the list opens a form for editing information about the selected patient. Note that this data is shared between all the ASCEND CV studies for that patient. Changing this data will not change any signed reports but will change the data on any open studies for the patient (now and into the future).

Carson, Mitchell

This patient record is shared by all of the studies associated with this patient.
This form should only be used to update patient information.

ID: 504

Salutation:

First name: Mitchell

Middle name:

Last name: Carson

Family suffix:

Professional suffix:

Address 1:

Address 2:

City:

State / province:

Zip / postal code:

Country:

Email:

Business #:

Home #: (603)400-500

Fax #:

Birth date: 12/25/1947

Birth gender: Male

Ethnicity: Unknown

Race: White

Marital status: Married

Primary language: English

SSN:

MPI:

Universal record #:

Foreign health insurance
 Indian health service
 Medicaid
 Medicare
 Military health care
 No health insurance
 Private health insurance
 State specific health care plan

Death indicator:

Death date/time:

Assigning authority	Type	ID
MRN	MRN	3162935

ASCEND CV supports the use of multiple medical record numbers (MRN) per patient, where each medical record number has an associated **Assigning authority** and **ID**. These MRNs are edited using the form in the lower right-hand corner of the patient edit screen.

Assigning authority	Type	ID
East Campus	MRN	3162935
West Campus	MRN	3958576

Clicking the **New** button below the patient list displays a form for entering a new patient.

Palmer, Evan	10/11/1973
Wickham, Roland	08/17/1975

This patient record is shared by all of the studies associated with this patient.
 This form should only be used to update patient information.

ID -1

Salutation SSN

! First name ! MPI

Middle name ! Universal record #

! Last name

Family suffix

Professional suffix

Address 1

Address 2

City

State / province

Zip / postal code

Country

Email

Business #

Home #

Fax #

! Birth date

Birth gender

Ethnicity

Race

Marital status

Primary language

Foreign health insurance

Indian health service

Medicaid

Medicare

Military health care

No health insurance

Private health insurance

State specific health care plan

Death indicator

Death date/time

! A minimum of one identifier is required.

Assigning authority	Type	ID
No data available in table		

New

! Required field is empty or invalid

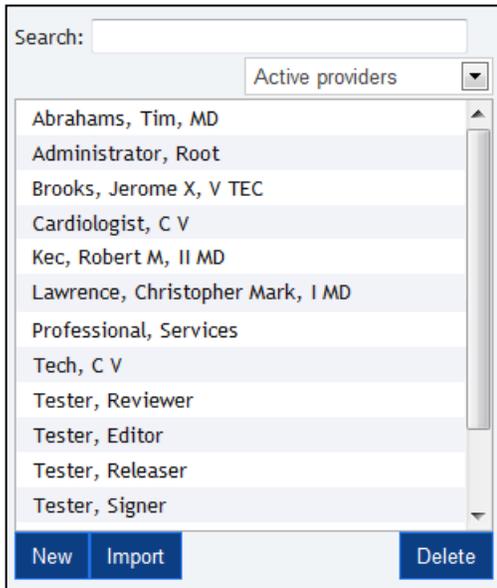
Save Cancel

The fields marked with a red exclamation point (!) are required. Note that you must specify at least one patient identifier – master patient index number (MPI), universal record number, or medical record number (MRN).

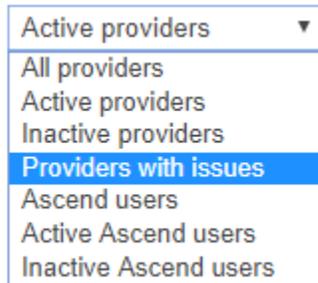
When you have finished editing an existing or new patient record, you must click the **Save** button to save the edited patient data to the ASCEND CV database.

Providers Tab

The **Providers** tab is used to edit the medical personnel data stored in the ASCEND CV database.



You can filter the provider list by entering a portion of a name in the **Search** box or by selecting the type of participant from the filter list:



Active: Provider is marked as “Active” in the ASCEND CV database. Inactive providers will not be displayed in the participants list in the ASCEND CV reporting interface but will be retained in the ASCEND CV database and can be viewed by selecting the **Inactive providers** option in the drop down.

Providers with issues: Providers with issues – potential duplicates, providers needing review, and providers with Catalyst errors – will display with an exclamation point in the main list, but can also be addressed using this filter. Providers needing review were either created automatically by an order, a device data import, or created by a reporting user on demand (see *ASCEND CV Reporting Quick Start Guide* for further details). These providers typically should be reviewed for completeness and correctness by a lab or system administrator.

ASCEND user: Provider is a user of the ASCEND CV system, as opposed to someone who may be listed as a provider on a clinical report, but who will not use ASCEND CV. One can also filter on either active or inactive ASCEND users.

Selecting a provider from the provider list displays a form for editing information about the selected provider. Note that this provider data record is shared by all ASCEND CV studies referencing the provider.

Hibbert, K Julius IV MD

ID: 53
 Active
 ASCEND user

First name: Julius
 Middle name: K
 Last name: Hibbert
 Family suffix: IV
 Professional suffix: MD
 Staff ID:
 Npi: 1234567892
 Address 1: 146 N 10th St.
 Address 2: #45
 City: Anywhere
 State / province: USA
 Zip / postal code: 02345
 Country: USA
 Email: julius.hibbert@ascendgeneral.org
 Business #: (111) 222-1142
 Mobile #: (111) 222-1140
 Home #: (111) 222-1141
 Fax #:

Participant roles | ASCEND roles

Facility
 East Campus
 West Campus

Reporting module
 cath
 cath.implant
 cct
 echo.adult
 echo.peds
 ep
 nuclear
 vascular
 cmr

Participant role
 Responsible physician
 Preliminary signer
 Transporter
 Reporting fellow
 Technologist
 Referring physician
 Ordering physician
 ECG technician
 Nurse
 Circulator
 Monitor
 Scrub
 Consulting physician
 Fellow 1
 Fellow 2

Practice: None
 Signature image:

Buttons: Merge, Save, Cancel

The **Participant roles** form specifies the facilities, reporting modules, and participant roles associated with the selected participant. In the example above, “Julius Hibbert” is specified as being a physician who reads adult and pediatric echocardiography studies at the East Campus facility. When an East Campus echocardiography study is opened in the ASCEND CV reporting interface, the **Participant** list for the **Responsible physician** role will include “Julius Hibbert” as one of the choices.

Participants

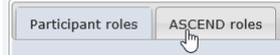
Show only: East Campus Echocardiography Role

Role	Participant
Responsible physician	[none]
Preliminary signer	[none]
Sonographer	Abrahams, Tim, MD Hibbert, Julius K, IV MD
Referring physician	Lawrence, Christopher Mark, I MD
Ordering physician	+Add New Participant
Practice	[none]

Buttons: Ok, Cancel

The **Practice** field specifies the clinical practice to which the provider belongs. The **Signature image** field stores an electronic copy of the provider’s written signature. This information will be used by the ASCEND CV reporting interface when generating clinical reports signed by the provider. The image needs to be the actual size desired when printed and must be in the .png, .jpg, or .gif formats.

The **Ascend roles** form is open by clicking on the corresponding tab and is used to specify the selected provider's user account settings and data access rights.



System administration rights:

- **None:** No system administrator access
- **System administrator:** Can access all tabs in the ASCEND CV administration interface

Lab administration rights:

- **None:** No lab administrator access
- **Lab administrator:**
 - Can access the **Sessions, Errors, Unmatched data, Patients, Providers, Reporting modules, and Audit** tabs of the ASCEND CV administration interface.
 - For specified facilities and reporting modules, can reopen signed studies for amendment and can access the **Admin** button on the ASCEND CV worklist interface.
 - Note that all Lab administrators must be assigned *Editor* (or greater) reporting rights.

Reporting rights: Assigned per facility and reporting module. Each choice inherits the rights of the choices above it (e.g., amenders can also sign, release, edit, and review).

- **None:** Cannot open studies or view reports
- **Reviewer:** Can view reports
- **Editor:** Can edit study data and clinical findings
- **Releaser:** Can release (sign) preliminary reports
- **Signer:** Can sign reports and amend reports currently signed by them
- **Amender:** Can reopen any signed studies for amendment

In the following example, user “Julius Hibbert” is assigned the following data access rights:

- No system administration rights
- No lab administration rights
- Can review all reports from all facilities and all reporting modules
- Can amend (and thus can also review, edit, and sign) East Campus adult and pediatric echocardiography studies

The screenshot shows the 'ASCEND roles' tab for user 'C.Hibbert'. It features a table with columns for Facility, Reporting module, Lab administration rights, and Reporting rights. The 'Lab administration rights' column is set to 'None' for all entries. The 'Reporting rights' column shows 'Reviewer' for most modules and 'Amender' for 'echo.adult' and 'echo.peds' at East Campus. There are also checkboxes for 'Change password' and 'Force password change', and a 'System administration' dropdown set to 'None'.

Facility	Reporting module	Lab administration rights	Reporting rights
East Campus	cath	None	Reviewer
East Campus	cath.implant	None	Reviewer
East Campus	cct	None	Reviewer
East Campus	echo.adult	None	Amender
East Campus	echo.peds	None	Amender
East Campus	ep	None	Reviewer
East Campus	nuclear	None	Reviewer
East Campus	vascular	None	Reviewer
East Campus	cmr	None	Reviewer
West Campus	cath	None	Reviewer
West Campus	cath.implant	None	Reviewer
West Campus	cct	None	Reviewer
West Campus	echo.adult	None	Reviewer
West Campus	echo.peds	None	Reviewer
West Campus	ep	None	Reviewer
West Campus	nuclear	None	Reviewer
West Campus	vascular	None	Reviewer

Clicking the **Change password** button changes the user’s ASCEND CV password. Note that the ASCEND CV password is only used when a user logs into ASCEND CV directly via a Web browser. In many configurations, users log into their Hospital Information System (HIS), VNA, or PACS and that login is automatically transferred to ASCEND CV. The ASCEND CV password is not used in such configurations.

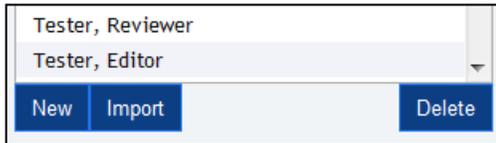
Checking the **User locked out** checkbox inactivates the user’s ability to log into ASCEND CV. Note that this setting will be set automatically if a user attempts to log on with an incorrect password 5 consecutive times. Unchecking the checkbox will restore the user’s ability to log on.

Checking the **Force password change** checkbox will force the user to change their password the next time they log in.

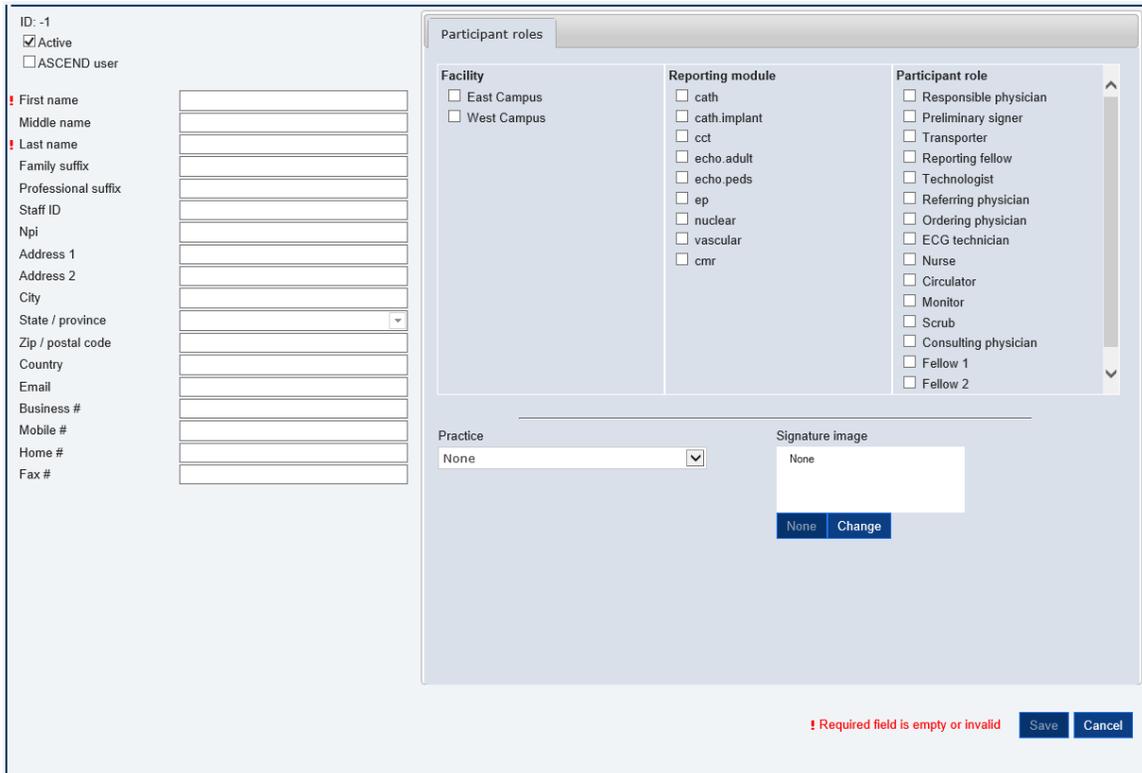
Note that you must click the **Save** button to save the edited provider data to the ASCEND CV database.

Managing the List of Providers

Clicking the **New** button below the provider list displays a form for entering a new provider.



The fields marked with a red exclamation point (!) are required and must be specified.



Clicking the **Delete** button below the provider list deletes the selected provider; you will be prompted to approve the deletion. Note that you can only delete providers who have never been associated with any studies. Alternatively, you can mark a provider as Inactive by unchecking the **Active** checkbox, which will stop the provider from being displayed in the participant lists in the ASCEND CV reporting interface.

Clicking the **Import** button below the provider list imports a comma-delimited (.csv) file of participants. The format requirements for the CSV file are specified below:

Note: if you are constructing the CSV in a spreadsheet application and exporting as a CSV, you need not surround multi-valued columns with double-quotes.

- List of columns (fields):
Active,GivenFirstName,MiddleName,FamilyLastName,FamilySuffix,ProfessionalSuffix,StaffID,Npi,Address1,Address2,City,State,ZipCode,Country,Email,BusinessPhoneNumber,MobilePhoneNumber,HomePhoneNumber,FaxNumber,Practice,Facilities,ReportingModules,Roles,Username>Password,LabAdministratorRights,ReportingRights,UserLockedOut,ForcePasswordChange,SystemAdministration

- The first row must contain the column headings.
- Columns FamilyLastName and GivenFirstName must be present (and non-empty) for each provider.
- If a provider is associated with more than one Facility, Reporting Module, or Role, separate the additional names in each column with commas and surround the list with double-quotes.
- The format for specifying the LabAdministratorRights and ReportingRights is

[facility]:[reporting module]=[right]

where multiple rights must be separated by a comma and the list surrounded with double-quotes

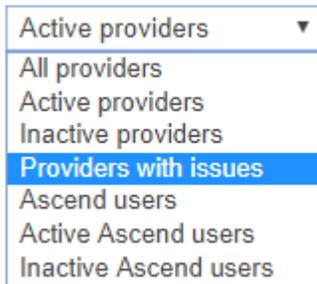
“[facility1]:[reporting module1]=[right1], [facility2]:[reporting module2]=[right2], ...”

Reviewing and Maintaining Providers

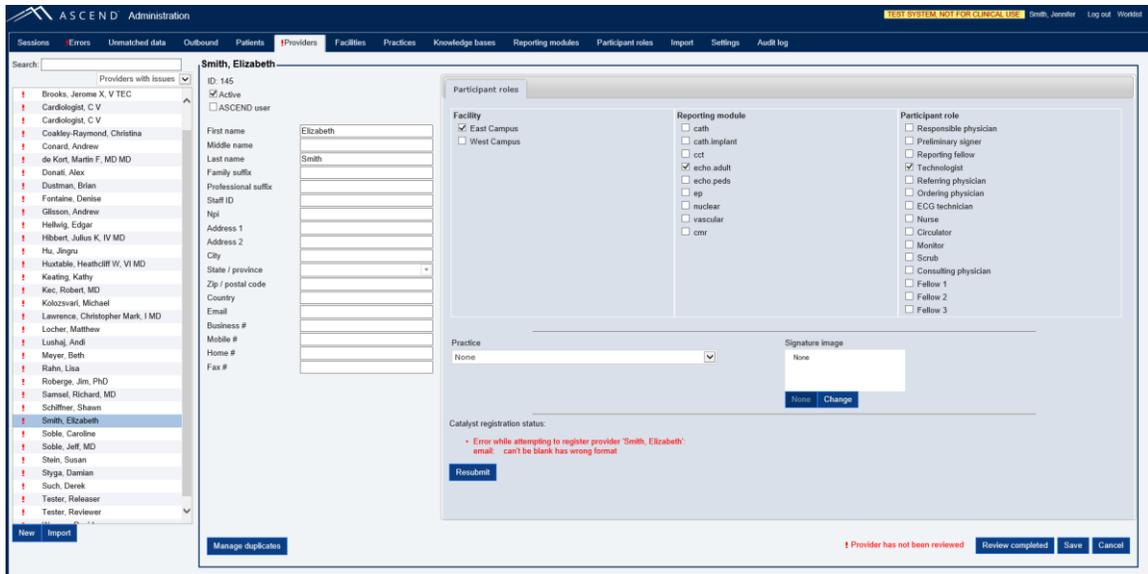
A lab or system administrator of ASCEND CV will need to periodically review and maintain the provider list in ASCEND CV. This typically results from:

1. ASCEND CV reporting users manually adding participant names, rather than selecting participants from the participant list.
2. Data imports that specify and create a new provider, or add one that is a potential rather than clear match for an existing provider. In some cases, this can lead to duplicate providers.
3. Providers entered into the system that have potential duplicates already in the system.

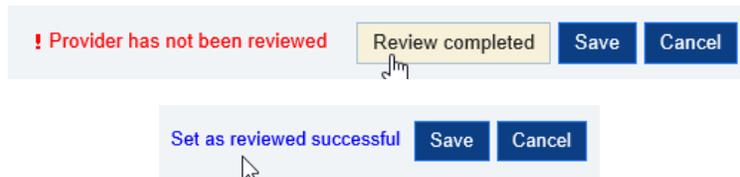
ASCEND CV provides a filter of “**Providers with issues**” to facilitate this process. This option is highlighted in red if there are providers waiting to be reviewed.



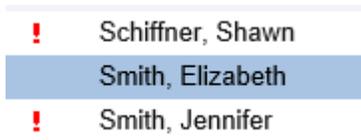
Selecting the filter prunes the list of providers, making it easier to step through them and add additional detail as required or resolve duplicates. In the example below, the ASCEND Catalyst integration requires a valid email address for Elizabeth Smith.



Entering a valid email address and pressing the Save button will clear the error message. The administrator will likely also add additional contact information such as an address or phone numbers. The only way to indicate the provider has been fully reviewed and to remove her from the “Providers with issues” list is to press the **Review completed** button.



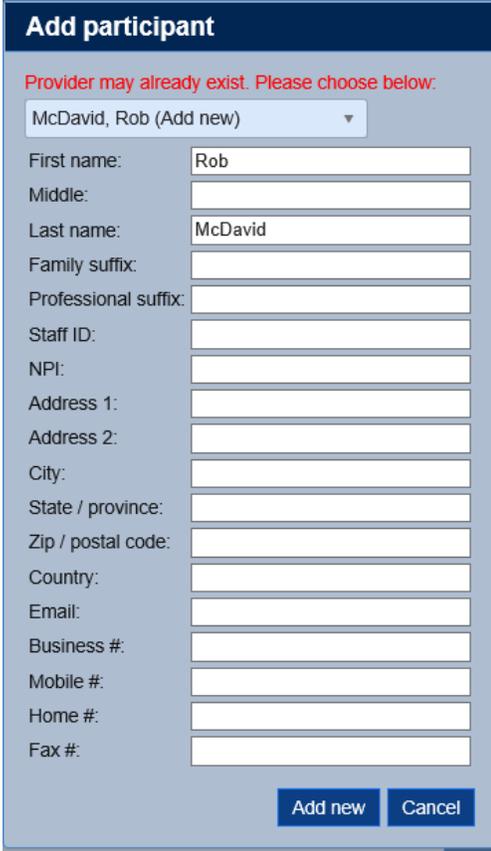
This also clears the red exclamation point next to Elizabeth Smith in the provider list:



Merging Duplicate Providers

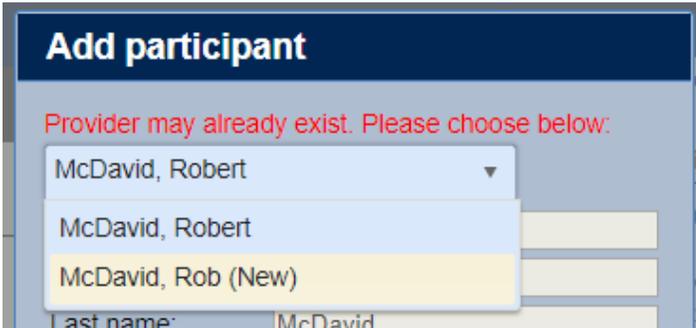
ASCEND CV is designed to reduce the likelihood that duplicate providers are created. For example, if during reporting a clinician adds a provider that is a likely duplicate, they will be prompted to confirm whether this is already an existing provider or whether another separate provider should be created.

In the example below, the clinician attempts to add a new responsible physician – Rob McDavid, MD – for the study whose last name and first character of the first name are identical to an existing provider, Robert McDavid, MD:



The screenshot shows a form titled "Add participant" with a dark blue header. Below the header, a red message reads "Provider may already exist. Please choose below:". A dropdown menu is open, showing "McDavid, Rob (Add new)" as the selected option. The form contains several input fields: First name (Rob), Middle, Last name (McDavid), Family suffix, Professional suffix, Staff ID, NPI, Address 1, Address 2, City, State / province, Zip / postal code, Country, Email, Business #, Mobile #, Home #, and Fax #. At the bottom right, there are two buttons: "Add new" and "Cancel".

In this case, the user can use the dropdown menu to either add a new Rob McDavid or select the existing Robert McDavid as a responsible physician:



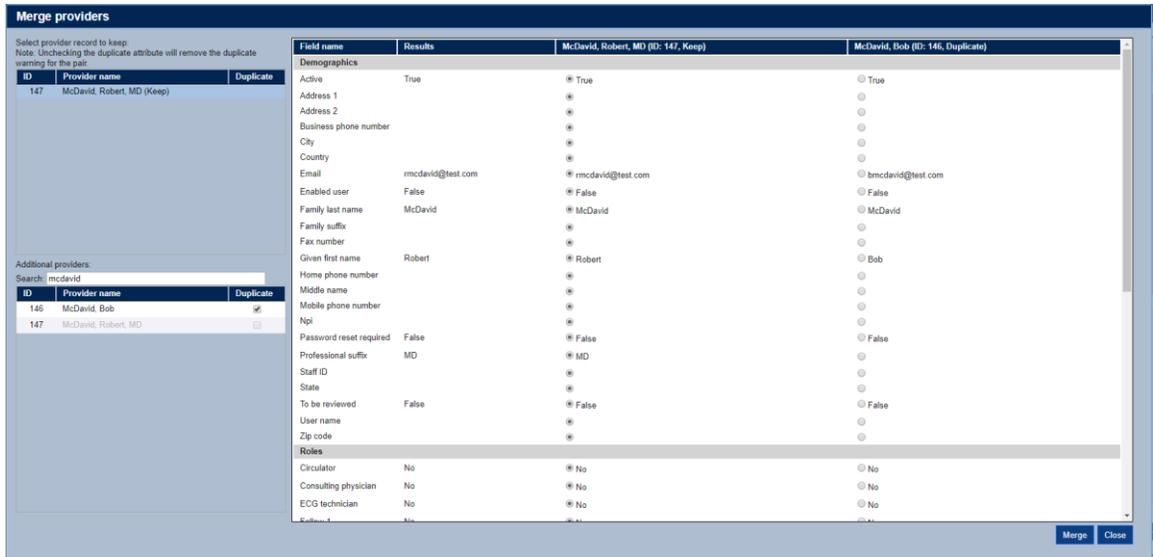
This screenshot is a close-up of the dropdown menu from the previous image. It shows three options: "McDavid, Robert" (the currently selected option), "McDavid, Robert", and "McDavid, Rob (New)". The "McDavid, Rob (New)" option is highlighted in yellow. Below the dropdown, the "Last name" field is visible with "McDavid" entered.

Even with these guiding prompts, duplicate providers can be still created by users or device imports. For example, Robert and Bob McDavid could be the same physician, and if so should be combined by an ASCEND CV lab or system administrator. Most often, duplicate providers will be found in the “Providers with issues” list. However, they can be reconciled from any of the filters or unfiltered provider lists.

In this case below, we select Dr. McDavid for a provider merge by choosing Robert McDavid, MD from the list and clicking the **Manage duplicates** button:

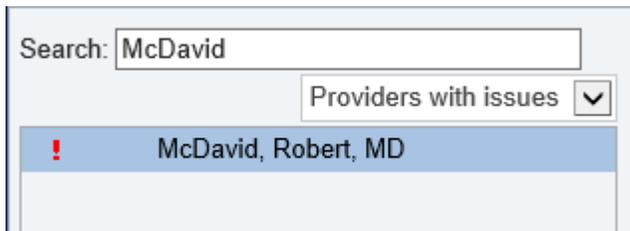
The screenshot shows the ASCEND CV interface. At the top, there is a search bar containing 'McDavid' and a dropdown menu set to 'Providers with issues'. Below this is a list of providers with red exclamation marks indicating issues. The list contains two entries: 'McDavid, Bob' and 'McDavid, Robert, MD'. The 'McDavid, Robert, MD' entry is selected and highlighted in blue. To the right of the list is a detailed view for the selected provider, titled 'McDavid, Robert MD'. This view includes the following fields: ID: 146, Active (checked), ASCEND user (unchecked), First name: Robert, Middle name: (empty), Last name: McDavid, Family suffix: (empty), Professional suffix: MD, Staff ID: (empty), Npi: (empty), Address 1: (empty), Address 2: (empty), City: (empty), State / province: (empty), Zip / postal code: (empty), Country: (empty), Email: (empty), Business #: (empty), Mobile #: (empty), Home #: (empty), and Fax #: (empty). At the bottom of the interface, there are buttons for 'New', 'Import', 'Delete', and 'Manage duplicates'.

ASCEND CV then displays the selected physician and a search box for additional providers. The user can either select from this main list or use the search bar to filter to a smaller list. The provider of record, which will be retained in the system, should be the most complete or accurate of all the providers. Once the user selects additional providers, all other candidate providers for the merge are displayed in columns to the right. In this case, the one duplicate provider is Bob McDavid, MD.



Note that the original physician, Robert McDavid, is marked as Keep, while the potential duplicate, Bob McDavid, is marked as such. Their unique system IDs are also displayed to avoid any confusion.

The user can then select specific properties of Bob McDavid to override the existing entries for Robert McDavid, MD. In the case above, no values from Bob McDavid are set to override. The **Merge** button is then pressed to complete the merge process. After the user confirms the merge operation, the duplicate provider is removed from ASCEND CV.



System Configuration

System configuration can only be performed by a user assigned the system administrator role. A lab administrator that is not also a system administrator cannot perform these remaining system configuration operations.

Participant Roles Tab

The **Participant roles** tab is used to edit the set of clinical roles that can be referenced in the ASCEND CV reporting interface, including adding (**New**) participant roles and deleting (**Delete**) roles that you have added. For each role, you must specify the name of the role (**Label**) and the name of the associated XML data element (**Read-only element**). The roles shown in gray are built into ASCEND CV and cannot be edited.

Participant roles

Label	Read-only element
Circulator	circulator
Consulting physician	consultingPhysician
ECG technician	ecgTechnician
Fellow 1	fellow1
Fellow 2	fellow2
Fellow 3	fellow3
Monitor	monitor
Nurse	nurse
Ordering physician	orderingPhysician
Preliminary signer	preliminarySigner
Referring physician	referringPhysician
Reporting fellow	reportingFellow
Responsible physician	responsiblePhysician
Scrub	scrub
Technologist	technologist

New

Save Cancel

Note that this is a global set of roles that covers all reporting modules and all facilities. You can select which participant roles will be used with a specific reporting module at a specific facility using the **Facilities** tab. In addition, inclusion of a new participant role on reports may require report configuration and importing of a participant role from clinical device data, which may also require system or device interface configuration.

You must click the **Save** button to save the edited participant roles data to the ASCEND CV database.

Knowledge Bases Tab

A **knowledge base (KB)** defines the clinical content, reporting interface layout, and report layout used in structured reporting. At any point in time, ASCEND CV will have multiple versions of each knowledge base. One version is identified as **Active**, meaning that it will be used with all new studies. Other versions are retained, as previously started studies with a given version of a knowledge base will continue to use that version when the study is opened for reporting (or amendment).

The **Knowledge bases** tab is used to download knowledge bases from the knowledge base editor (KB editor) and to select which version of a knowledge base should be Active at a given point in time.

Selecting a knowledge base from the list on the left displays the available versions of that knowledge base on the right. Clicking the **Set as Active** button marks the selected version as being the Active version, and downloads it from the KB editor, if necessary.

In the example below, the **ASCEND adult echo** knowledge base is identified as having the latest version (version 5.0.150 c0.0) already downloaded and active for reporting in ASCEND CV. If a newer version existed, selecting that version and clicking **Set as Active** would download that version from the KB editor and mark it as Active (note that the download process may take a minute).

Connected to KB Editor - Site: ASCEND

Knowledge bases			ASCEND Adult echo - knowledge base revisions				
Label	Active version	Status	Version	Date available	Active	Status	Description
ASCEND Adult echo	5.0.150 c0.0	New revision available	4.3.107 c0.9	04/28/2017		Release-ready	
ASCEND Cath	5.0.140 c0.0	New revision available	4.3.107 c0.8	01/03/2017		Release-ready	updated with 4.2 echo.DI...
ASCEND Cath implant	5.0.135 c0.0	New revision available	4.3.70 c0.6	10/24/2016		Release-ready	
ASCEND CCT	5.0.149 c0.0	New revision available	4.3.70 c0.5	10/24/2016		Release-ready	
ASCEND Peds echo	5.0.150 c0.0	New revision available	4.3.70 c0.4	10/12/2016		Release-ready	
ASCEND EP	5.0.149 c0.0	New revision available	4.2.397 c0.3	09/13/2016		Release-ready	
ASCEND Nuclear	5.0.176 c0.0	New revision available	4.2.397 c0.2	08/30/2016		Release-ready	updated with devices, su...
ASCEND Vascular	5.0.187 c0.0	New revision available	4.2.397 c0.1	08/30/2016		Release-ready	Initial 4.2 Adult Echo
ASCEND Hybrid cath	None	New knowledge base available	5.0.150 c0.0		Yes		
CAS 4.3 vascular baseline	None	New knowledge base available					
ASCEND Vascular custom form	None	Not found in KB Editor					
ASCEND CMR	None	Not found in KB Editor					

You can revert to an older version of a knowledge base (e.g., 4.3.107 c0.9 in the example below) by selecting that version in the right column and clicking the **Set as Active** button.

Connected to KB Editor - Site: ASCEND

Knowledge bases			ASCEND Adult echo - knowledge base revisions				
Label	Active version	Status	Version	Date available	Active	Status	Description
ASCEND Adult echo	5.0.150 c0.0	New revision available	4.3.107 c0.9	04/28/2017		Release-ready	
ASCEND Cath	5.0.140 c0.0	New revision available	4.3.107 c0.8	01/03/2017		Release-ready	updated with 4.2 echo.DI...
ASCEND Cath implant	5.0.135 c0.0	New revision available	4.3.70 c0.6	10/24/2016		Release-ready	
ASCEND CCT	5.0.149 c0.0	New revision available	4.3.70 c0.5	10/24/2016		Release-ready	
ASCEND Peds echo	5.0.150 c0.0	New revision available	4.3.70 c0.4	10/12/2016		Release-ready	
ASCEND EP	5.0.149 c0.0	New revision available	4.2.397 c0.3	09/13/2016		Release-ready	
ASCEND Nuclear	5.0.176 c0.0	New revision available	4.2.397 c0.2	08/30/2016		Release-ready	updated with devices, su...
ASCEND Vascular	5.0.187 c0.0	New revision available	4.2.397 c0.1	08/30/2016		Release-ready	Initial 4.2 Adult Echo
ASCEND Hybrid cath	None	New knowledge base available	5.0.150 c0.0		Yes		
CAS 4.3 vascular baseline	None	New knowledge base available					
ASCEND Vascular custom form	None	Not found in KB Editor					
ASCEND CMR	None	Not found in KB Editor					

Facilities Tab

The **Facilities** tab is used to edit the information about a facility stored in the ASCEND CV database, where a “facility” may denote a hospital, a clinic, or a laboratory depending on your system configuration.

Selecting a facility from the list displays a form for editing information about the selected facility.

East Campus

ID	4
Label	East Campus
Address 1	123 Main St.
Address 2	
City	Chicago
State / province	IL
Zip / postal code	60616
Country	
Phone #	(312) 555-1234
Fax #	(312) 555-1235
NCDR ID	
NCDR name	
NPI	
MRN authority	East

Module	Knowledge base	Headers	Settings	Participant role
cath	ASCEND Cath	Edit	Edit	Edit
cath.implant	ASCEND Cath implant	Edit	Edit	Edit
cct	ASCEND CCT	Edit	Edit	Edit
echo.adult	ASCEND Adult echo	Edit	Edit	Edit
echo.peds	ASCEND Peds echo	Edit	Edit	Edit
ep	ASCEND EP	Edit	Edit	Edit
nuclear	ASCEND Nuclear	Edit	Edit	Edit
vascular	ASCEND Vascular	Edit	Edit	Edit
cmr	ASCEND CMR	Edit	Edit	Edit

Facility identifier

- East Campus
- East Campus 1
- East Campus 2

[New](#)

[Save](#) [Cancel](#)

ASCEND CV supports multiple Medical Record Numbers (MRN) for each patient and uses the facility’s **MRN Authority** to determine which patient Medical Record Number to display for studies associated with that facility. In the example above, the MRN Authority is “East.” This indicates that the MRNs associated with the East Campus facility will be displayed when reporting on studies for that facility.

Also note that there can be more than one Facility identifier communicated in HL7 orders or other data imports that map to the “East Campus” facility in ASCEND CV. In this example, three facility identifiers are aliases for “East Campus”.

When you are done editing the information about a facility, you must click the **Save** button to save the edited facility data to the ASCEND CV database.

The panel on the right lists the set of reporting modules for the selected facility and allows you to specify the knowledge base, report headers, workflow settings, and participant roles for each reporting module at that facility. In the example below, the settings on the **echo.adult** row are applied to the adult echocardiography reporting module at the **East Campus** facility.

Module	Knowledge base	Headers	Settings	Participant role
cath	ASCEND Cath	Edit	Edit	Edit
cath.implant	ASCEND Cath implant	Edit	Edit	Edit
cct	ASCEND CCT	Edit	Edit	Edit
echo.adult	ASCEND Adult echo	Edit	Edit	Edit
echo.peds	ASCEND Peds echo	Edit	Edit	Edit
ep	ASCEND EP	Edit	Edit	Edit
nuclear	ASCEND Nuclear	Edit	Edit	Edit
vascular	ASCEND Vascular	Edit	Edit	Edit
cmr	ASCEND CMR	Edit	Edit	Edit

Selecting the Knowledge Base

Each reporting module at the selected facility must be assigned a **knowledge base**.



In most cases, the same knowledge base is used by all facilities, resulting in a common reporting experience across facilities. In some cases, an individual facility may use a different knowledge base to support variations in reporting requirements at that facility.

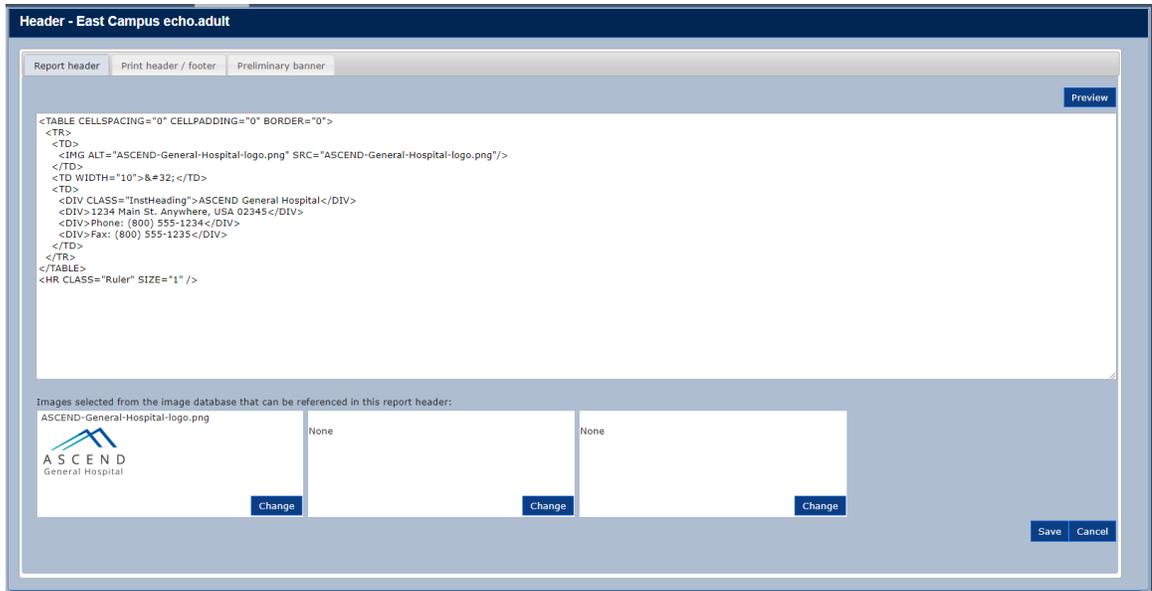
Configuring Report Headers and Customizing the Preliminary Banner

Clicking an **Edit** button in the **Header** column displays a form for editing the report header for the corresponding reporting module (at the selected facility).

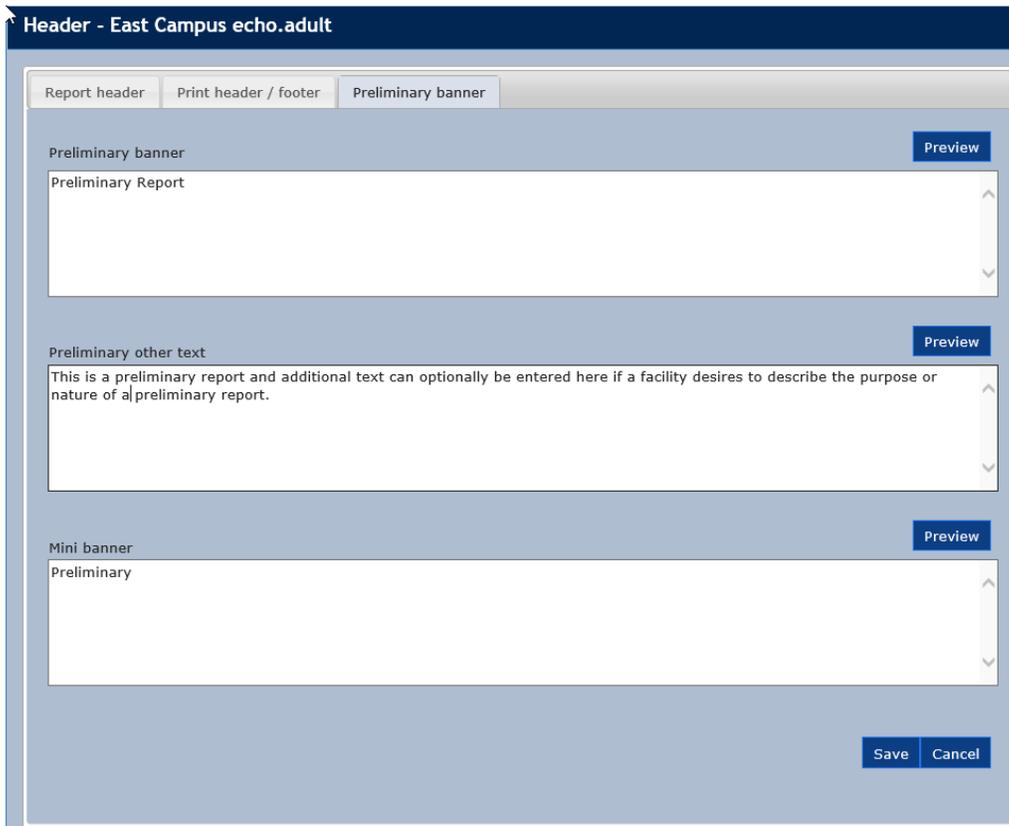
These settings allow multiple facilities to share the same knowledge base for a reporting module (including report layout), while allowing each facility to specify its own version of

- The **Report header**, which appears at the top of a report and typically includes information about the facility (e.g., name, address, and phone numbers) formatted as an HTML table.
- The **set of images** used in the report header (e.g., hospital, facility, accreditation logos). Clicking the **Change** button next to an image uploads an image file (.jpg, .png, .gif) from your computer.
- The **Print header/footer** that appears on locally-printed copies of a report, which typically includes information about the patient (e.g., name, MRN), study (e.g., date/time, facility), and the printing task (e.g., user printing report, print date/time).
- The **Preliminary banner** that allows a user to modify ASCEND CV's default preliminary banner and mini banner text, as well as add additional preliminary text.

Clicking the **Preview** button displays a preview of the selected header. When you are done editing the header information, you must click the **Save** button to save this information to the ASCEND CV database.



Clicking the **Preliminary banner** allows the customization of the preliminary banner, additional text under the banner, and the mini banner visible just above the signature block. For example, entering the following and then clicking the **Save** button



provides a preview of how they will appear on a preliminary report before confirming the **Save** or **Canceling** the operation:

Confirm preliminary banners

Preliminary Report

This is a preliminary report and additional text can optionally be entered here if a facility desires to describe the purpose or nature of a preliminary report.

Preliminary

Save Cancel

Configuring Reporting Workflows

Clicking an **Edit** button in the **Settings** column displays a form for configuring the *Amendment*, *Overread*, and *Preliminary Report* reporting workflows for the corresponding reporting module (at the selected facility).

Settings - East Campus cath

Amendment

- Amending users must enter a reason for the amendment (for audit purposes, not shown on the amended report)
- Allow editing of report findings during amendment (re-open study and add/edit/delete findings)
- When amending findings, users must also enter text in the Addendum box (shown at the top of the amended report)

Study state

- To be read
- For overread
- Preliminary

Study split

- One physician one report
- One physician one report or two physicians two reports

Report

- Images in report displayed full page width by default
- Images in report displayed side-by-side by default

General

- Allow users to force close other studies

Save Cancel

When a user amends a study in ASCEND CV – opening the Amendment dialog – the required workflow can be tailored above such that the user:

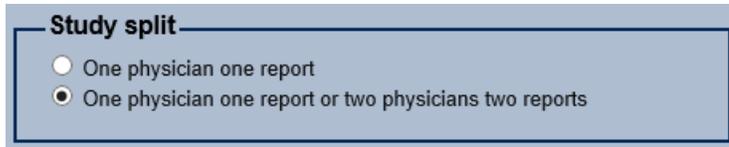
- Can be required to enter a reason for the amendment. Note that this information is stored in ASCEND CV's audit log but is not displayed on the report.
- Can re-open the study in the clinical reporting interface to add missing findings, delete incorrect findings, and modify findings (if not, the user is limited to entering an addendum to the report).
- Must specify an addendum, even when editing findings.

The **Study state** subform is used to specify whether the reporting module supports the following workflows:

- **To be read:** Allows initiation of the report by a technologist or other staff member. The report must then be read by a fellow or other physician and signed by the responsible physician.

- **For overread:** Allows creation of an initial report by a fellow or other staff member. The report must then be overread (reviewed and edited) and signed by the responsible physician.
- **Preliminary:** Allows creation of a preliminary report by a fellow or other staff member. The preliminary report is sent to the Hospital Information System (HIS). The report must then be reviewed, edited, and the final report signed by the responsible physician. The banner displayed on a preliminary report can also be customized as described in the previous section.

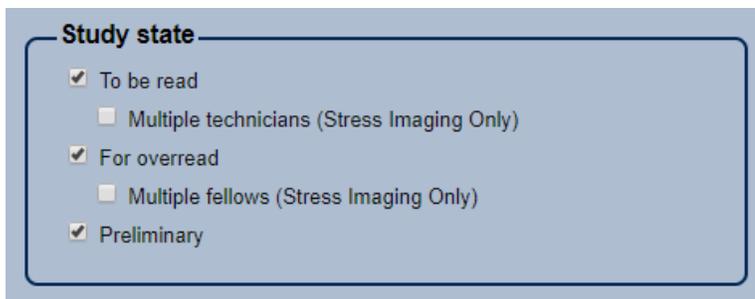
Currently, in the case of the Catheterization, Echo and Nuclear reporting modules, an additional configuration setting is available that indicates whether only a single-physician or two-physician split reporting workflows should be available:



Study split

- One physician one report
- One physician one report or two physicians two reports

There are also additional settings available for only **Stress Imaging** studies, such as a stress echo or stress nuclear. If multiple technicians will be working on a single Echo or Nuclear study, the **Multiple technicians** setting can be enabled. It will add options to the workflow toolbar: **ECG complete** and **ECG fellow complete**.



Study state

- To be read
 - Multiple technicians (Stress Imaging Only)
- For overread
 - Multiple fellows (Stress Imaging Only)
- Preliminary

- **ECG complete:** Allows the stress ECG part of the study to be marked as complete. This is an optional step. If it is skipped and a later workflow step selected, a warning message will appear.
- **ECG fellow complete:** Allows the stress ECG review by a fellow to be marked as complete. This is an optional step. If it is skipped and a later workflow step selected, a warning message will appear.

For catheterization procedures, a split workflow will be used when there are separate diagnostic and interventional physicians. For Nuclear and Echo stress procedures, there can be separate stress ECG and imaging physicians.

The **Report** subform sets the default layout for secondary capture key images that are attached to a report, either full width or side-by-side.

There is also a **General** settings sub-form, which contains a setting to allow users working within this reporting module and facility to enable or disable a user's ability to open a study for edit and force close another user's session if they have the same study already open for edit.

See the *ASCEND CV Reporting Quick Start Guide* for more details regarding these reporting workflows. When you are done editing these workflow settings, you must click the **Save** button to save this information to the ASCEND CV database.

Configuring Participant Roles

Clicking an **Edit** button in the **Participants roles** column displays a form for configuring which global participant roles (**Participant roles** tab) are supported by the corresponding reporting module (at the selected facility).

Participant roles - East Campus echo.adult

Participant roles	Label	Import	Display in report	Show in participant list	Required for confirm
Responsible physician	<input type="text" value="Responsible physician"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Automatic
Preliminary signer	<input type="text" value="Preliminary signer"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Automatic
Reporting fellow	<input type="text" value="Reporting fellow"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologist	<input type="text" value="Sonographer"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Referring physician	<input type="text" value="Referring physician"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ordering physician	<input type="text" value="Ordering physician"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ECG technician	<input type="text" value="ECG technician"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nurse	<input type="text" value="Nurse"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Circulator	<input type="text" value="Circulator"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitor	<input type="text" value="Monitor"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scrub	<input type="text" value="Scrub"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consulting physician	<input type="text" value="Consulting physician"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fellow 1	<input type="text" value="Fellow 1"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fellow 2	<input type="text" value="Fellow 2"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fellow 3	<input type="text" value="Fellow 3"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Show practices in participant list

Save Cancel

For each participant role, you can specify the following:

- **Import:** When checked, this setting indicates that for all device data imports where a provider filling that participant role (e.g. Responsible physician) is provided, he or she will be imported into the study in ASCEND CV.
- **Display in report:** When checked, this setting indicates that the provider filling that roll will be listed in the header of the ASCEND CV report, labelled as specified by the **Label** column.
- **Show in participant list:** Specifies whether the role should be displayed in the participant lists in the ASCEND CV reporting interface and, if so, the text **Label** to display.
- **Required for confirm:** Specifies whether the provider filling the role should be identified before a report is signed (a red exclamation point (!) will be displayed in the ASCEND CV reporting interface if the role is not filled). Roles associated with the signing of reports (e.g., Responsible physician, Preliminary signer) are automatically filled with the signing user when a report is signed (Required = Automatic).

There is also another checkbox to indicate whether practices shall be listed and selectable in the participant list.

When you are done editing the participant roles, you must click the **Save** button to save this information to the ASCEND CV database.

Practices Tab

The **Practices** tab is used to edit the information about a physician practice stored in the ASCEND CV database. Selecting a practice from the list displays a form for editing information about the selected practice.

The screenshot shows the 'Practices Tab' interface. On the left is a list of practices: 'Default [Default]', 'BD Inc', 'Cardiology Associate, Inc' (selected), and 'St. Eligius'. Below this list is a 'New' button. The main area is titled 'Cardiology Associate, Inc' and contains the following fields:

- ID: 2 Active
- Name: Cardiology Associate, Inc
- Address 1: 146 N 10th St.
- Address 2: Suite 50
- City: Chicago
- State / province: IL (dropdown)
- Zip / postal code: 54321
- Country: USA
- Email: info@cardiologyassociate.com
- Phone #: (111)222-1171
- Fax #: (111)222-1170

There are two additional sections:

- Facility:** A list of checkboxes for 'St. Eligius', 'St. Elsewhere', 'West Campus', 'East Campus', 'PMI', and 'Del Webb'. 'West Campus' and 'East Campus' are checked.
- Reporting module Letter header:** A table with two columns: 'Reporting module' and 'Letter header'. Each row has a checkbox and an 'Edit' button.

Reporting module	Letter header
<input checked="" type="checkbox"/> cath	Edit
<input checked="" type="checkbox"/> cath.implant	Edit
<input checked="" type="checkbox"/> cta	Edit
<input checked="" type="checkbox"/> echo.adult	Edit
<input checked="" type="checkbox"/> echo.peds	Edit
<input checked="" type="checkbox"/> ep	Edit
<input checked="" type="checkbox"/> nuclear	Edit
<input checked="" type="checkbox"/> vascular	Edit

At the bottom right are 'Save' and 'Cancel' buttons.

Use the checkboxes to select the **Facilities** and **Reporting modules** associated with the practice.

Clicking an **Edit** button in the **Letter header** column displays a form for editing the referral letter header for a reporting module (for the selected practice), including

- The **header** that appears at the top of a referral letter, which typically includes information about the practice (e.g., name, address, phone numbers) formatted as an HTML table.
- The **set of images** used in the letter header (e.g., practice and accreditation logos). Clicking the **Change** button next to an image uploads an image file (.jpg, .png, .gif) from your computer.

These settings allow multiple practices to share the same knowledge base for a reporting module (including referral letter layout) while allowing each practice to specify its own referral letter header.

When you are done editing the information about a practice, you must click the **Save** button to save the edited practice data to the ASCEND CV database.

Settings Tab

The **Settings** tab is used to edit the following system settings:

- **Reports:** Whether to generate PDF versions of reports that are confirmed or signed. This would normally be on, unless running in a test environment.
- **Prior study import:** Number of prior studies for a patient to import for measurement trending and for prior study carry-forward.
- **Imports:** The interval in milliseconds before a data import that fails to get matched and imported into an existing study is re-attempted.
- **Signing:** Whether to allow a physician to sign a study when certain required information has not been specified:
 - Required report findings
 - Pending (unprocessed) imports
 - Required participants
 - Required study details
 - Pending (unprocessed) secondary-capture images

and whether a confirmation dialog should be displayed on signing.

- **Sessions:** How long to allow a session to be inactive before logging it out automatically (in minutes)
- **Passwords:** How often to force passwords to be changed (in days) and the minimum number of characters, letters, numbers and special characters in a password.
- **KB Editor:** URL and login information for accessing the knowledge base editor. This information is provided at system installation.
- **System:**
 - Whether to display a “Test System” notice. When checked, also allows “Test-ready” KBs to be downloaded from the KBEitor on the Knowledge bases tab.
 - The date format to use in the ASCEND CV interface.

Note: There are corresponding date format dependencies in the reporting module KBs that are configured by ASCEND clinical support specialists in a manner specific to a customer site. The entire configuration process for consistent date formats across ASCEND CV and the various structured reporting modules is described separately in the document “*ASCEND CV - Date Format Configuration*”.

- The domain name that ASCEND Analytics should use to connect to the ASCEND CV reporting server so that Analytics can open and display completed reports.
- A federated report passphrase used to encrypt the ASCEND Analytics network request for the display of completed ASCEND CV report data.
- Whether to override, for start and end date/time only, the data precedence settings specified in **Data prioritization** area of the **Import** tab. This option should normally be checked, as ASCEND CV overrides are designed to set the earliest study start date/time and latest study end date/time appropriate for device data imports found in both invasive and non-invasive procedure types.

- **Outbound:**
 - The time interval to wait between attempts after a failure to transfer data to external systems.
 - The time interval to wait for an external system to process one successful data transfer for a study before sending another transfer for the same study.
 - The number of re-attempts on a failed transfer of data to an external system
 - The multiplicative base used to calculate the interval before the next attempt. By default this is set to the value 2, to indicate the amount of time is doubled between each successive attempt.

- **Database Maintenance:**
 - Whether orders received by ASCEND CV that were in error should be automatically deleted and if so after how many days – defaulted to yes and 30 days.
 - Whether device data imports that fail to match a study in ASCEND CV should be automatically deleted and if so after how many days – defaulted to yes and 30 days.
 - Whether device data imports associated with a signed study in ASCEND CV should be automatically deleted and if so after how many days – defaulted to yes and 90 days.
 - Whether logged application exceptions should be automatically deleted and if so after how many days – defaulted to yes and 60 days.
 - Whether outbound transmissions from ASCEND CV should be automatically deleted and if so after how many days – defaulted to yes and 180 days.

- **ASCEND Analytics:** The database connection string to the ASCEND Analytics database

- **ASCEND Catalyst:** This section is used to enable ASCEND Catalyst for remote training, including the required connection URL and IDs.

When you are done editing these system settings, you must click the **Save** button to save them to the ASCEND CV database. Note that some system settings (marked with an *) will not take effect until the ASCEND CV system is restarted.

Setting	Value
Reports	
Generate PDFs of reports	<input type="checkbox"/>
Prior study import	
Number of prior studies to import	<input type="text" value="5"/>
Imports	
Interval before reattempting a failed import (ms)	<input type="text" value="600000"/>
Signing	
Allow sign with missing required findings	<input checked="" type="checkbox"/>
Allow sign with missing required imports	<input checked="" type="checkbox"/>
Allow sign with missing required participants	<input checked="" type="checkbox"/>
Allow sign with missing required study items	<input checked="" type="checkbox"/>
Allow sign with missing required images	<input checked="" type="checkbox"/>
Require confirmation on signing	<input checked="" type="checkbox"/>
Sessions	
Inactivity logout period (min)*	<input type="text" value="10"/>
Passwords	
Password change period (days)	<input type="text" value="30"/>
Minimum password length (characters)	<input type="text" value="6"/>
Minimum letters in password	<input type="text" value="1"/>
Minimum numbers in password	<input type="text" value="1"/>
Minimum special characters in password	<input type="text" value="1"/>
KB Editor	
Uri	<input type="text" value="https://kbeditor2.ascendhit.com/"/>
KB Editor API ID	<input type="text" value="api@ascend.com"/>

* Modification of this setting requires restarting of IIS and/or the ASCEND service.

Import Tab

The **Import** tab is used to specify the information systems and clinical devices that provide data imports to ASCEND CV, when imports from a system/device should be automatically imported into a study, and how conflicting data items from multiple systems/devices should be resolved.

The **Sources** table lists the set of information systems (e.g., HL7 ORM and ADT messages) and clinical devices (e.g., ultrasound system, stress ECG cart, physiologic system) from which to import data.

ID	Label	Automatic import
GE_CARDIOLAB	GE CardioLab EP	Prior to opening
GE_CASE	GE Case	Prior to opening
GE_MAC-LAB	GE Mac-Lab Hemo	Prior to opening
GE_MAC-LAB_REPORT	GE Mac-Lab Hemo Report	Prior to signing
HL7_ORM	HIS	Prior to opening
HL7_ADT	HIS	Prior to opening
MERGE_HEMO	Merge Hemo	Prior to opening
MERGE_HEMO_REPORT	Merge Hemo Report	Prior to signing
MORTARA_XSCRIBE	Mortara XScribe	Prior to opening
PARKS_SC	Parks Secondary Capture	Prior to signing
PARKS_VASCULAR_SR	Parks Vascular	Prior to opening
QUINTON_QSTRESS	Quinton Q-Stress	Prior to opening
TOMTEC_SC	Secondary Capture	Prior to signing
SENSIS_HEMO	Sensis Hemo	Prior to opening
SENSIS_HEMO_REPORT	Sensis Hemo Report	Prior to signing
TOMTEC_ECHO_SR	TomTec DICOM Echo	Prior to signing
TOMTEC_VASCULAR_SR	TomTec DICOM Vascular	Prior to signing
UNETIXS_SC	Unetixs Secondary Capture	Prior to signing
UNETIXS_VASCULAR_SR	Unetixs Vascular	Prior to opening

You can specify

- The **Label** for the system/device that will be displayed in ASCEND CV.
- When an **Automatic import** of system/device data into a study should take place:
 - **Prior to opening:** Data will be automatically imported only when a study is “New” (i.e., only when the study has not yet been opened for reporting).
 - **Prior to signing:** Data will be automatically imported at any time prior to the signing of a study.
 - **Never:** Data will never be automatically imported; but must be imported manually by an ASCEND CV user utilizing the data button in the user interface. See the *ASCEND CV Reporting Quick Start Guide* for more details.

The **Data prioritization** table lists each ASCEND CV data field that can be imported and specifies the relative priority of an import into that data field from each system/device, where a data value from a higher priority system/device will take precedence over a data value from a lower priority system/device.

In the example below, patient birth dates from HL7 ORM and ADT messages are assigned priority 3 and are higher priority than the devices with priority 1.

Data prioritization					
Data field	HL7_ORM	HL7_ADT	TOMTEC_ECHO_SR	TOMTEC_VASCULAR_SR	MORTARA_XSCRIBE
Patient - BirthDate	3	3	1	1	1

Given the following sequence of imports

HL7 ORM 1955-01-01
HL7 ADT 1955-06-29
TOMTEC 1955-01-01

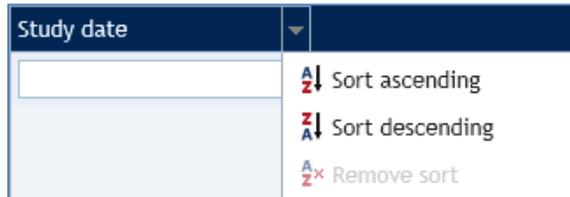
the HL7 ADT value will replace the HL7 ORM value (both have priority=3) but the TOMTEC value will not replace the HL7 ADT value, yielding a birth date of 1955-06-29.

When you are done editing these import settings, you must click the **Save** button to save them to the ASCEND CV database.

Sorting and Filtering Lists

You can sort and filter the **Errors**, **Unmatched data imports**, **Available studies**, and **Audit log** lists to meet your needs:

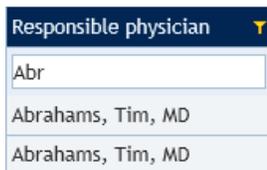
- Each list can be **sorted by column entry**. Mousing over a column heading displays a down arrow. Clicking the down arrow displays a list of sort options.



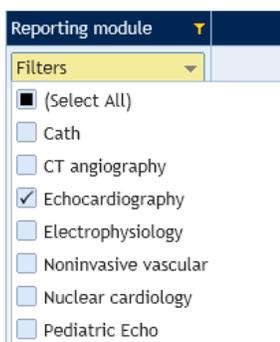
The sorted column will display an arrow icon  to indicate that it is being sorted.



- Each list can be **filtered by column entry**. Entering a value in a text column's filter box (below the column heading) displays only studies that contain matching text in the specified field (the studies that contain "Abr" in *Responsible physician* column in the example below).



Columns with predefined options can be filtered by selecting one or more choices from the associated filter list. Note that after selecting choices, you may need to click somewhere else on the list to close the filter list.



In either case, the filtered column will display a funnel icon  to indicate that it is being filtered.

Clicking the **Clear filters** button will clear all filters.

The **columns can be reordered**. To reposition a column in the list, drag its column heading (*Study status* in the example below) to a new location and drop it.

Study date	Patient name
Study status	✓

- The **column widths can be adjusted**. To narrow/widen a column, grab its column divider (the dotted line in the example below) and drag it left/right.

Patient name

Clicking the  button will refresh the list.



801 Warrenville Road
Suite 200
Lisle, Illinois 60532
(844) 413-2610
information@ascendhit.com

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