ASCEND

HEALTH INFORMATION TECHNOLOGY

ASCEND Analytics®

User Manual and Quick Start Guide

Document:	ASCEND Analytics – User Manual
Revision	C
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Overview

About ASCEND Analytics

ASCEND Analytics® makes the coded clinical data from ASCEND CV™ reporting, medical devices, and the patient demographics and history from the Hospital Information System (HIS) meaningful and actionable. ASCEND Analytics provides statistical data for operational metrics, research, accreditation, and clinical outcomes analysis. Our unique, comprehensive cross-modality data schema allows ASCEND Analytics to provide a new level of insight into clinical operations and patient management.

By their very nature, ASCEND Analytics reports and individual data fields present an incomplete perspective of a patient's condition. Whenever ASCEND Analytics is used to assist in making clinical decisions regarding a patient, the relevant signed clinical reports for the patient **must** be reviewed as part of the decision-making process so as to ensure that any actions are based on complete and accurate clinical information.

About this Guide

This Guide introduces the ASCEND Analytics reporting interface for SQL Server 2012 and includes:

- The various user interfaces and controls (displays, forms, buttons)
- The definition of common fields and parameters you will see within the reports
- The steps to view, work with and export a report
- Working with report parameters

This Quick Start Guide shows examples from various Reporting Packages, some of which may not be relevant to your workflow.

In addition to reviewing this Guide, you should review the Ascend CV® Reporting Quick Start Guide which describes in detail how to use the Ascend CV® reporting tool.

For general help or information, click the [Help] link in the upper right-hand corner of the Page Header.

For more advanced information use the following link: MSDN SQL Server 2012 Feature Reference (Reporting Services)

https://msdn.microsoft.com/en-us/library/bb522752(v=sql.110).aspx

Accessing ASCEND Analytics

Consult the ASCEND Analytics Supplemental regarding the address for your specific installation to gain access to the ASCEND Analytics application. Your Lab administrator will be able to provide you with your username and password.

Understanding the Interface

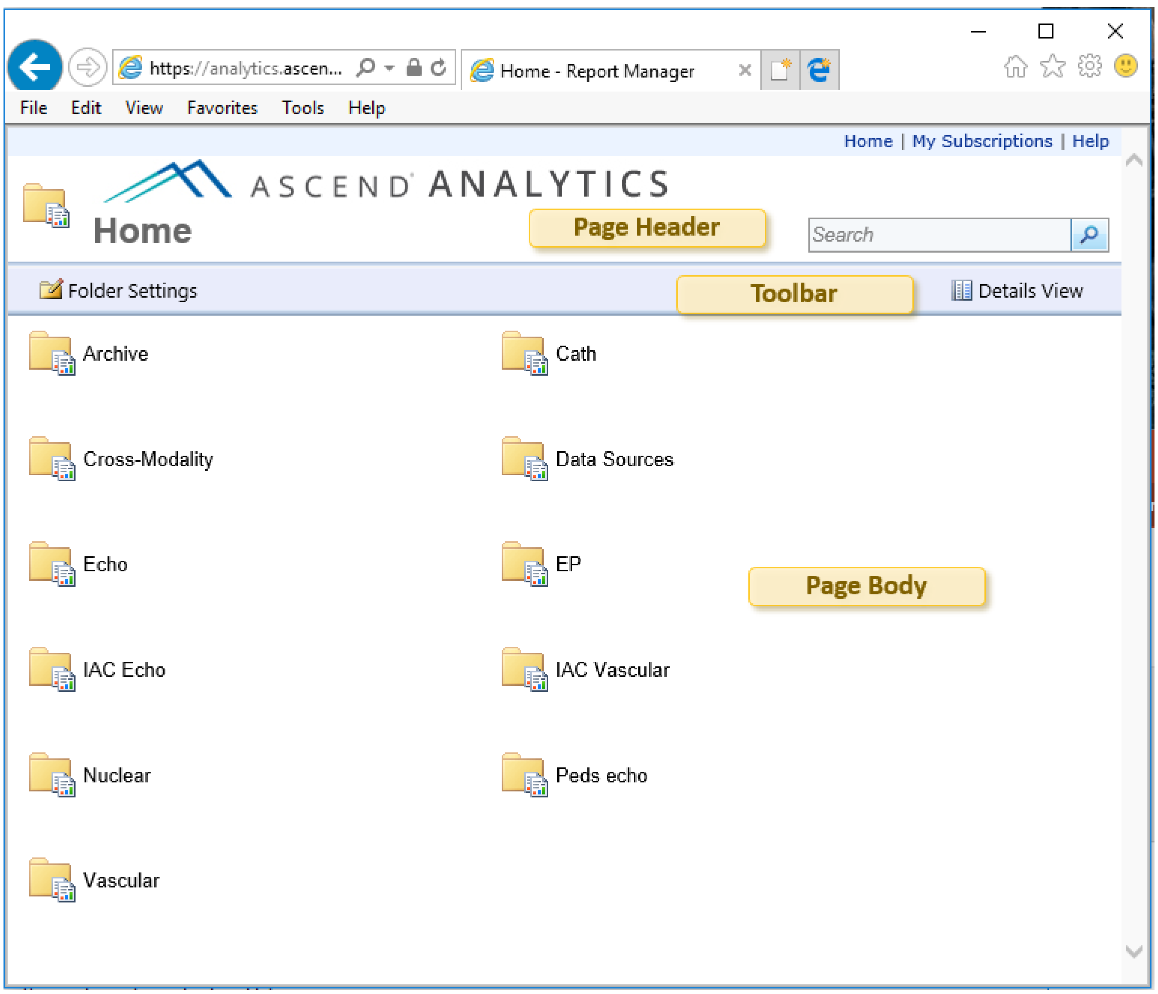
The ASCEND Analytics user interface is based on the Microsoft application SSRS 2012 and 2016 (SQL Server Reporting Services) Report Manager. Tutorials and help are provided within the application by using the 'Help' links available on all screens, and additional information is available online from Microsoft.

The main functions of the ASCEND Analytics user interface are to view/print/export reports, schedule reports for execution, and manage user access rights to the report content (the last is available only to administrators).

Note: some of the interfaces look different between the 2012 and 2016 versions of SSRS, but are functionally equivalent. The images below are based primarily on the 2012 version.

The Home Page

When you first open ASCEND Analytics, you will see the contents of the Home page/folder. The Home page has three main sections.

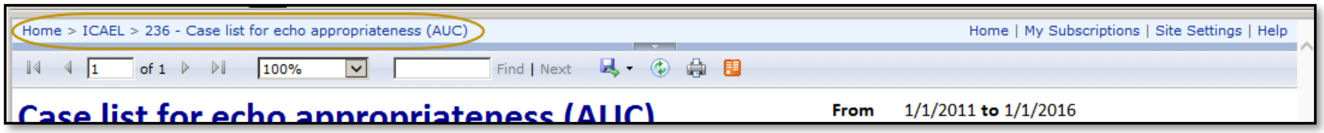


Page Header

The first section at the top of the page is called the Page Header. The header allows you to navigate to different areas of the site and to access administrative functionality. On the right side of the page header are a series of links. Some or all of these links will be visible depending on your user permissions. The most important things to note here are the "Home" and "Help" links.

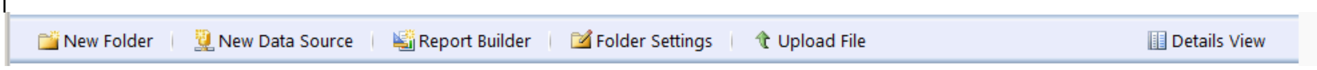
Just below these links is a Search box. This allows a user to search the name and description of all the folders and reports contained within the site. The Page Header Search box is not case sensitive and does not allow wildcards.

While browsing within the site, a breadcrumb navigational link will appear at the far top left corner.



Toolbar

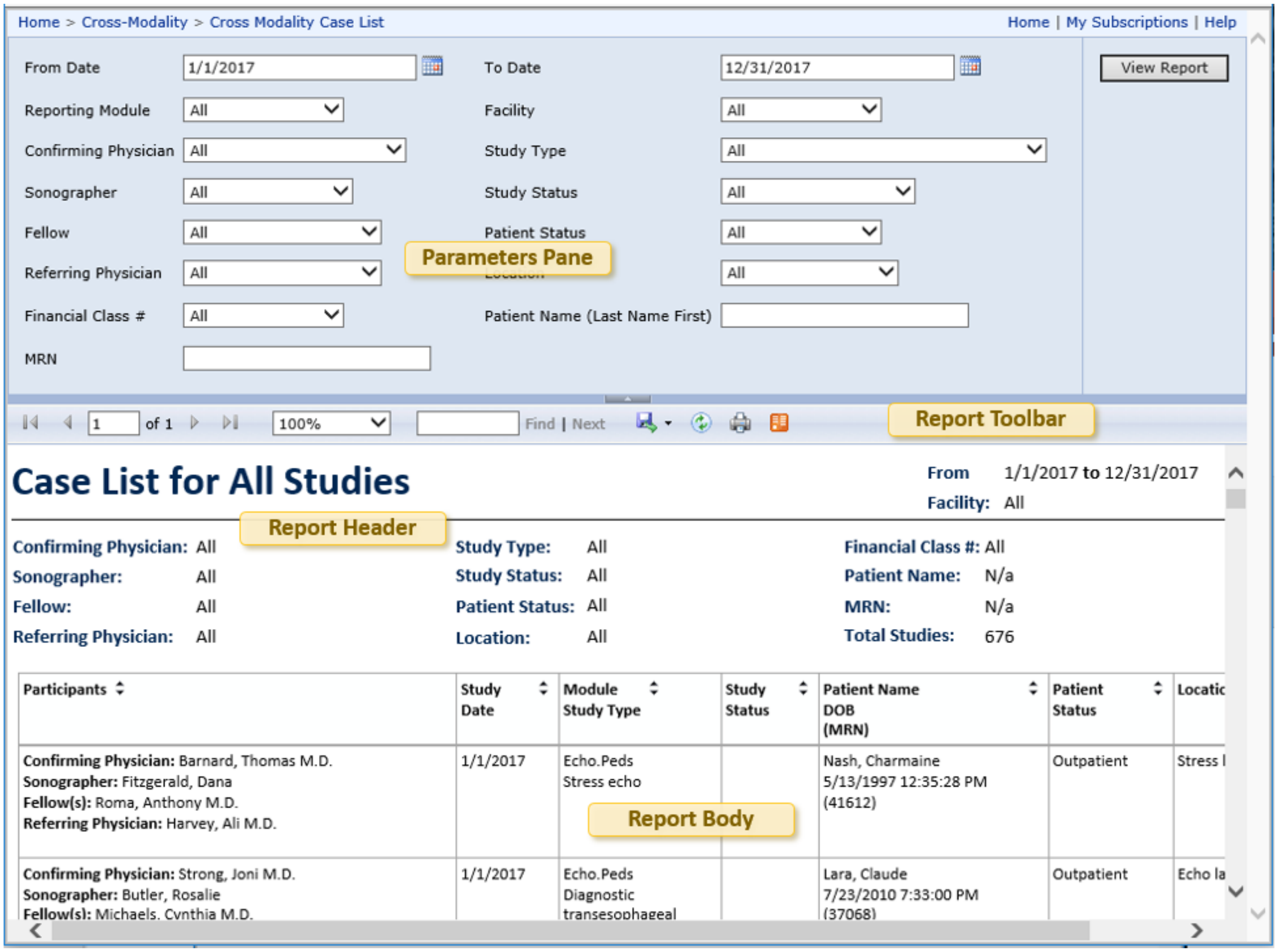
The next area directly below the Page Header is a toolbar. This provides users with the ability to add or modify folders or reports located in the Page Body~~,~~ and perform other folder-related operations, depending on your permissions.



Page Body

The bottom section is the Page Body. This is where ~~you'll~~you will find a list of folders for the Reporting packages your institution has purchased. Each reporting module from your physician reporting system is bundled with a corresponding Reporting package. In addition, a folder named Cross-Modality contains reports that include all studies recorded with ASCEND CV.

The Report Page



Parameters Pane

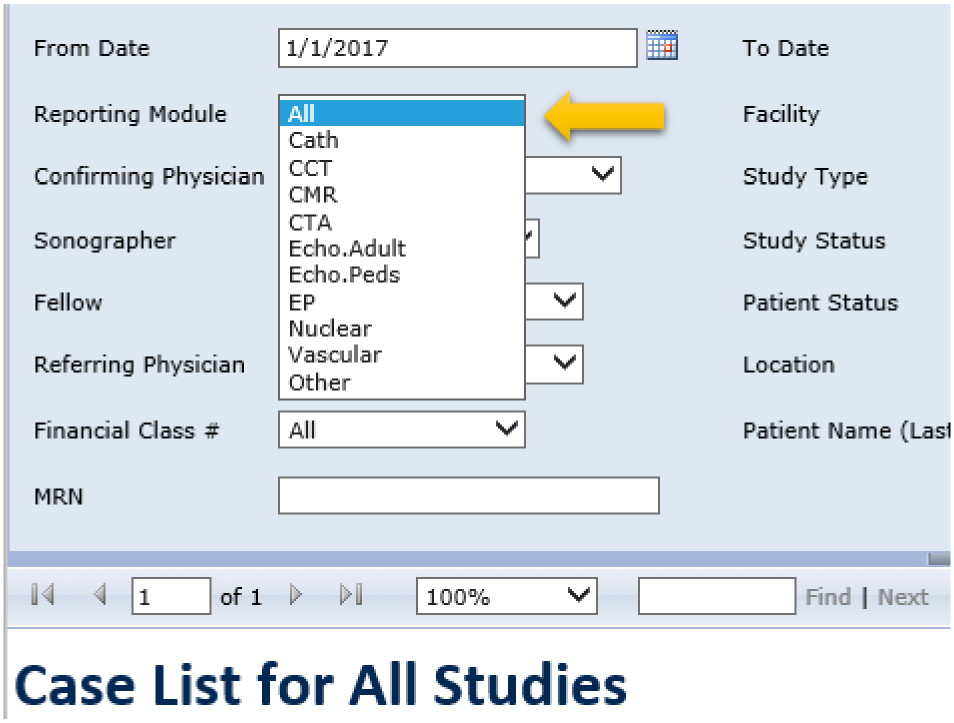
A report parameter is a control on the interface that allows a user to control the data displayed within a report as well as vary the report presentation. They can also be referred to as “report filters” or “selection criteria”.

Below are common report parameters used in most ASCEND Analytics reports:

Parameter	Description
From date	Start of study date range for inclusion in the report
To date	End of study date range for inclusion in the report
Facility	Used to limit / filter a report’s data to a single Facility (as defined by each institution).

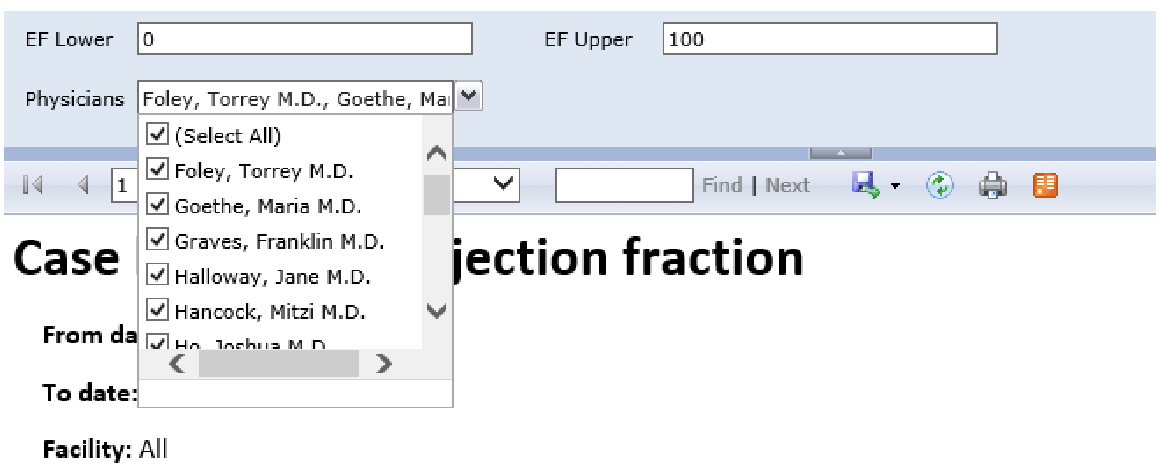
Single-select list parameters

Single-select drop down list parameters allow you to choose only one value. Many times the option of "All" is provided as a default for you. By selecting "All" in a Single-select report parameter, only the word "All" is displayed in the report header field, and the report data is not filtered by that value.



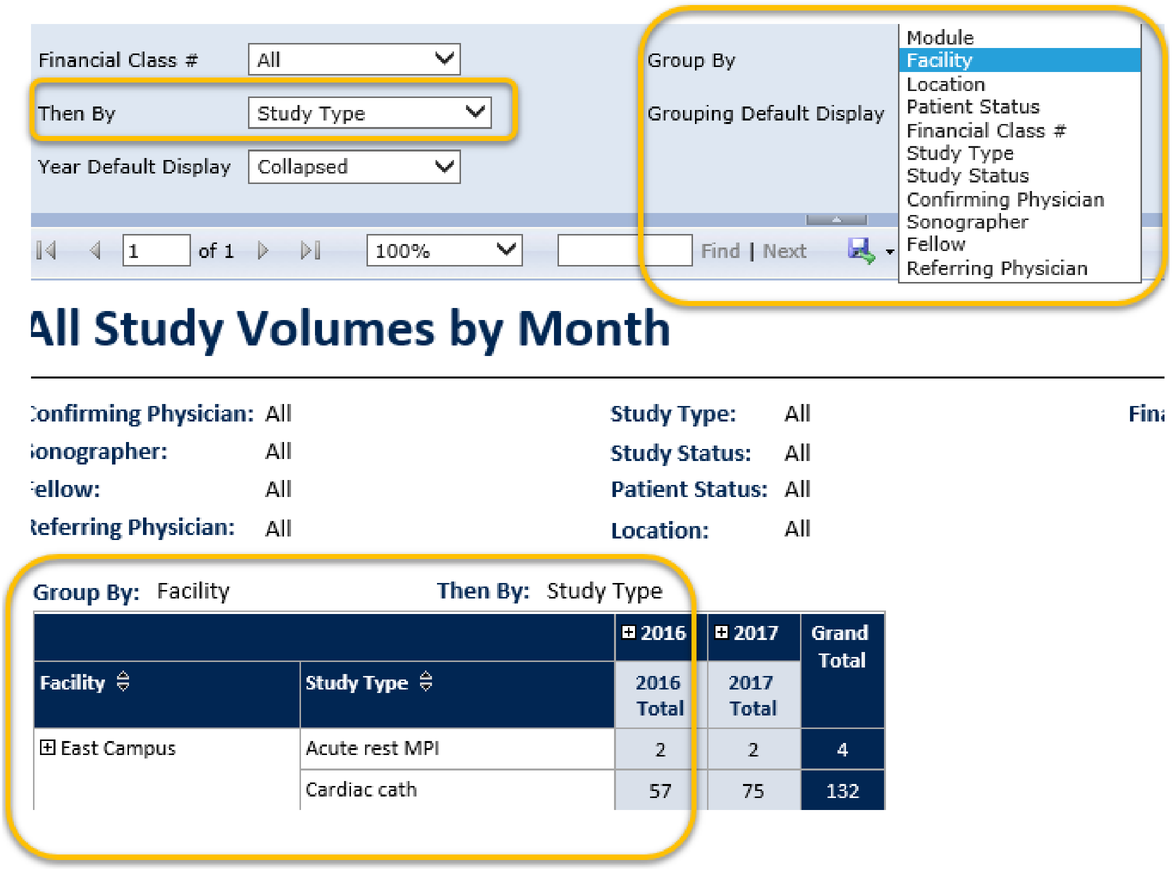
Multi-select list parameters

Multiple select or multi-select drop down list parameters allow the user to select multiple options from a list. The (Select All) option is always available~~,~~ and is used to check or uncheck all the choices.



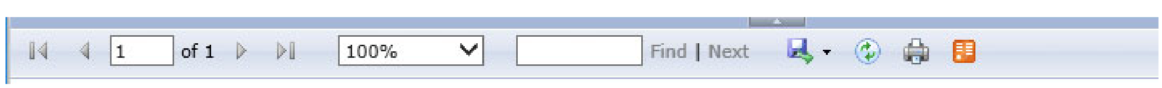
Group-by parameters

Group-by drop down report parameters expand the functionality of summary reports and allow the user to choose how they would like to roll up the data and see it summarized. The report shown below has two Group-by parameters, to allow users to group by two separate values (group and sub-group).



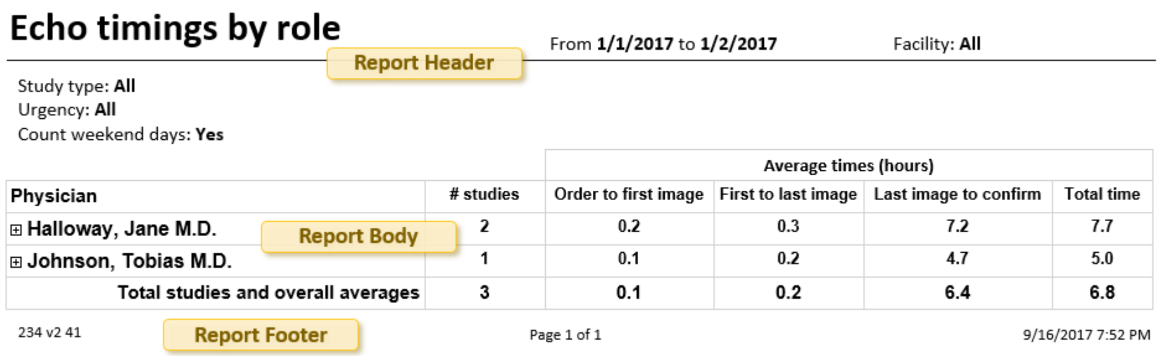
Report Toolbar

The area directly below the Parameter Pane is the Report Toolbar. This provides users with the ability to navigate to pages, search for values within the report data, print and export the report, and perform other report-related actions.



Report Pane

Below the Toolbar is the Report Pane. This is where the actual report is displayed. Most ASCEND Analytics reports consist of 3 parts: header, body, and footer.



Echo timings by role

From **1/1/2017** to **1/2/2017** Facility: **All**

Study type: **All**
Urgency: **All**
Count weekend days: **Yes**

		Average times (hours)			
Physician	**# studies**	**Order to first image**	**First to last image**	**Last image to confirm**	**Total time**
⊞ Halloway, Jane M.D.	2	0.2	0.3	7.2	7.7
⊞ Johnson, Tobias M.D.	1	0.1	0.2	4.7	5.0
Total studies and overall averages	**3**	**0.1**	**0.2**	**6.4**	**6.8**

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Report Header

The Report Header displays the name of the report along with all of the values selected for the report parameters.

Report Body

The Report Body is where the Reporting data results are displayed, for example a list of studies matching the report's criteria.

Report Footer

The Report Footer displays the Report ID Number & version number, the date and time this report was rendered, and the page number.

Types of Reports

Summary Reports

The purpose of summary reports is to provide a summary or roll up of data for a set of studies and to display aggregate information such as counts, averages, percentages, and totals. A summary report compiles data; for example, it can show the number of studies for each physician for a given date range and facility.

All Study Volumes by Month

From 9/16/2016 **to** 9/15/2017 *
Facility: All

Confirming Physician: All
Sonographer: All
Fellow: All
Referring Physician: All
Study Type: All
Study Status: All
Patient Status: All
Location: All
Financial Class #: All

Group By: Facility **Then By:** Module

		2016	2017	Grand Total
Facility	**Module**	**2016 Total**	**2017 Total**	
East Campus	Cath	57	75	132
	Echo.Adult	47	80	127
	Echo.Peds	33	39	72
	EP	24	45	69
	Nuclear	21	33	54
	Vascular	37	56	93
	Total Studies	**219**	**328**	**547**
West Campus	Cath	60	82	142
	Echo.Adult	63	96	159
	Echo.Peds	28	57	85
	EP	27	36	63
	Nuclear	32	40	72
	Vascular	28	37	65
	Total Studies	**238**	**348**	**586**
Total Studies		**457**	**676**	**1133**

**Totals shown above are for the date range provided and may not represent a full month or year.*

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Case List Reports

The purpose of the detail or Case list report is to display a list of cases (studies) matching the report's selection criteria and the specified parameter values. A case list report generally contains the names of the staff members involved with the study, the patient name and their internal ID along with any of the study data relevant to the given report – for example, the study's recorded Ejection Fraction value.

Case List for Nuclear Studies

From 1/1/2017 **to** 1/20/2017
Facility: All

Confirming Physician:	All	**Study Type:**	Stress MPI	**Financial Class #:**	All
Sonographer:	All	**Study Status:**	All	**Patient Name:**	N/a
Fellow:	All	**Patient Status:**	All	**MRN:**	N/a
Referring Physician:	All	**Location:**	All	**Total Studies:**	4

Participants	Study Date	Study Type	Study Status	Patient Name DOB (MRN)	Patient Status	Location
Confirming Physician: Barnard, Thomas M.D. **Sonographer:** Fitzgerald, Dana **Fellow(s):** Roma, Anthony M.D. **Referring Physician:** Harvey, Ali M.D.	1/5/2017	Stress MPI	Urgent	Booth, Lourdes 5/19/1975 7:54:33 PM (63388)	Outpatient	Nuclear imaging lab
Confirming Physician: Hancock, Mitzi M.D. **Sonographer:** Butler, Rosalie **Fellow(s):** Michaels, Cynthia M.D. **Referring Physician:** Lloyd, Norma M.D.	1/6/2017	Stress MPI		Hammond, Cori 10/3/1993 1:27:55 PM (79941)	Inpatient	Nuclear imaging lab
Confirming Physician: Huang, Shawna M.D. **Sonographer:** Orozco, Brandy **Fellow(s):** Hooper, Alice M.D. **Referring Physician:** Ramsey, Tracy M.D.	1/14/2017	Stress MPI	Urgent	Mckay, Diana 11/4/1963 8:48:03 AM (05741)	Outpatient	Nuclear imaging lab
Confirming Physician: Foley, Torrey M.D. **Sonographer:** Brandt, Terry **Fellow(s):** Simon, Walter M.D. **Referring Physician:** Krause, Bret M.D.	1/19/2017	Stress MPI	Urgent	Delacruz, Megan 7/8/2004 7:10:59 PM (70920)	Outpatient	Nuclear imaging lab

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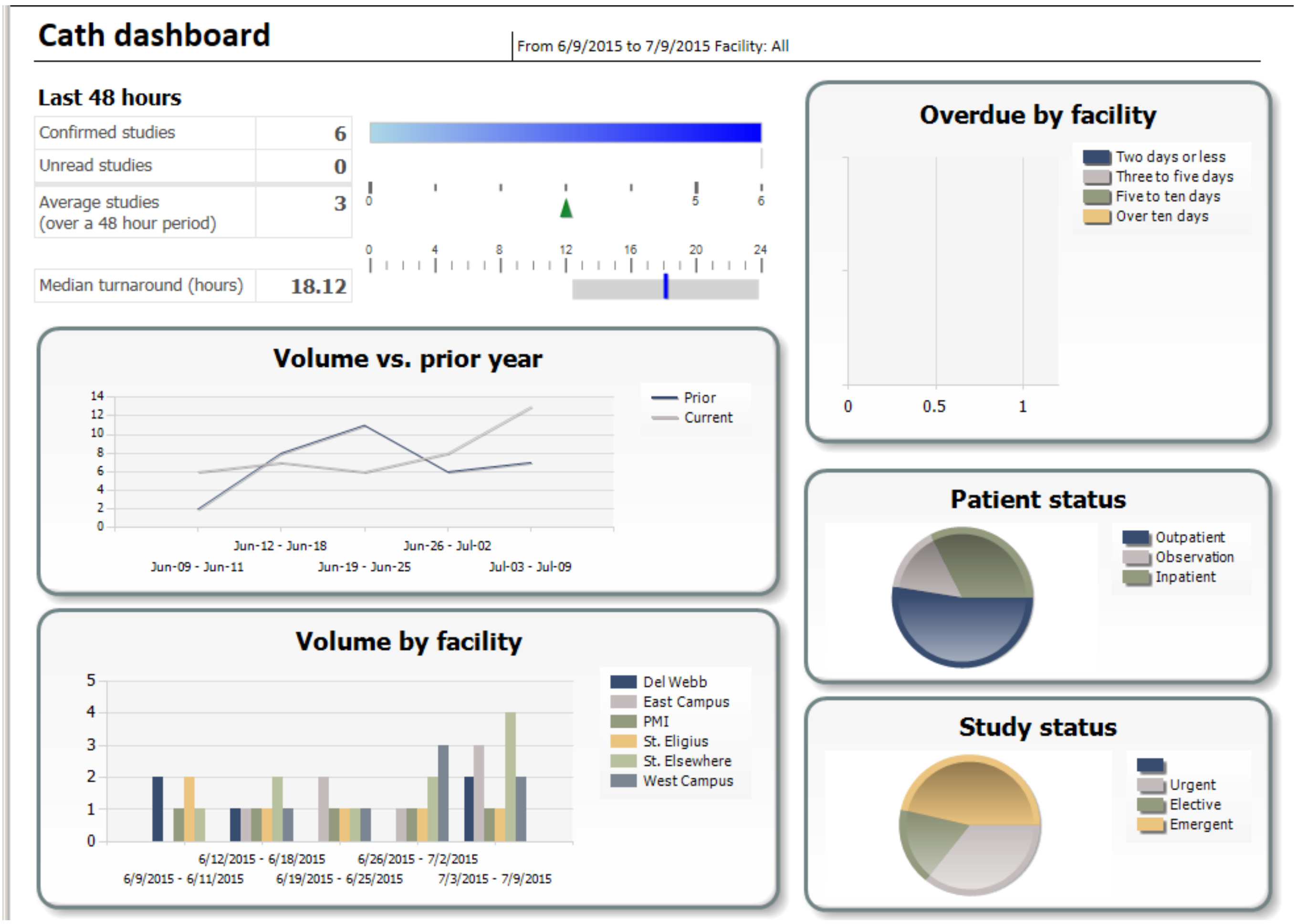
Dashboards

Each Reporting package includes one dashboard report. The purpose of this report is to provide a quick graphical overview of patient and case volumes in various categories.

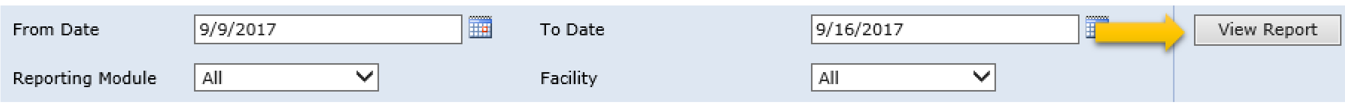


Working with Reports

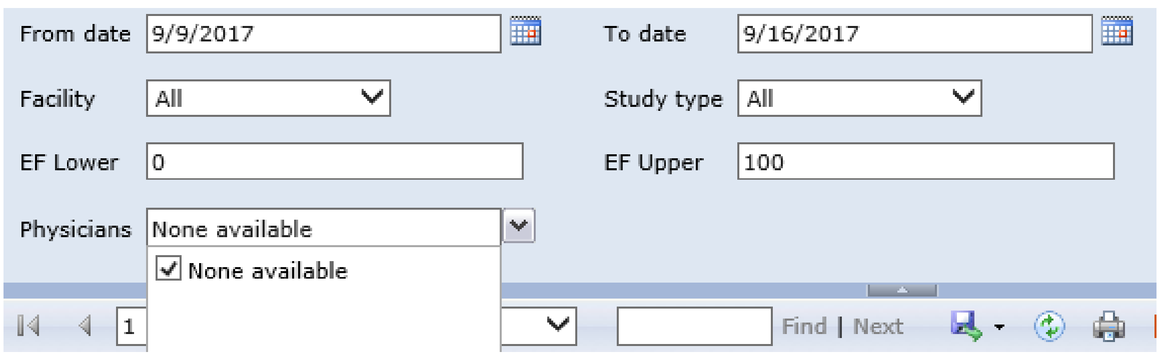
Opening a Report

To open a report from the Home folder: click on the appropriate Reporting package folder to see a list of all reports for that reporting package, then click on the report you wish to view.

The report will initially display using default parameters, for example the past month or year for date range, and ‘All’ for Facility. You may change the values of all report parameters at any time – doing this may sometimes result in the report body disappearing, this behavior is correct. After changing parameters to the desired values, you must click the View Report button at the top right to re-generate the report according to the new parameter values. If the report pane remains blank for several seconds after clicking this button, and you don’t see a Loading… message, click the View Report button one more time.



The date range you enter is used to filter the report contents as well as the contents of some of the other drop-down report parameters. Because of this, in some cases you may see “None available” or “All” as the only value in a report parameter dropdown. In that case, expand your date range until other values become available.



If there aren’t any records to display based on the parameter values you entered, you may get the below message displayed in the body of the report:

Closing a Report

To close a report and open another one, use the Breadcrumb bar at the top left of the application, above the parameters. Click Home to return to the Home folder~~,~~ or click any of the folders in the bar to return to them.

Sorting report columns

Report columns that can be sorted will have up/down arrows next to the column name. Click the button to sort the data in ascending order by that column. Click again to sort in descending order.

Drill-down reports

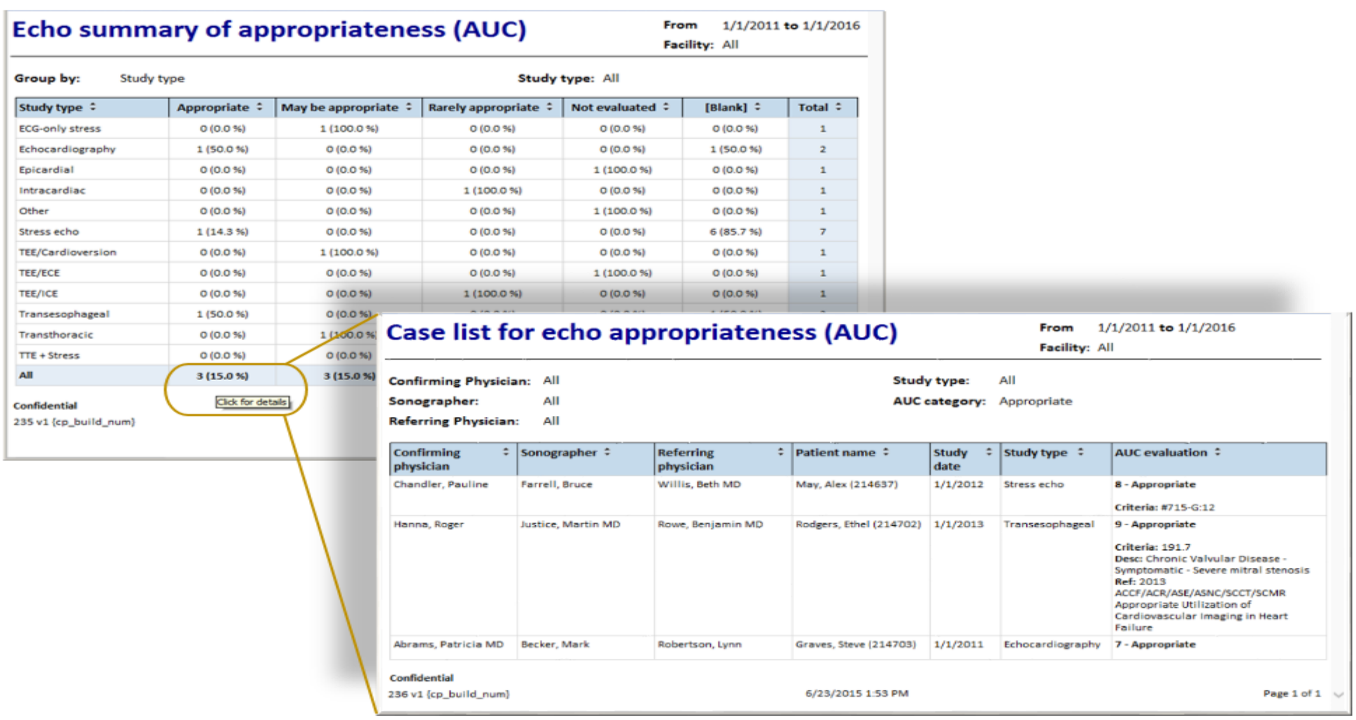
A drill-down report has hidden data in collapsed sections, which can be shown by clicking a + icon. In the image below, the + icon by each year allows the user to see monthly counts.

Group By: Facility **Then By:** Study Type

		⊞ 2016	⊞ 2017	Grand Total
Facility ≑	Study Type ≑	2016 Total	2017 Total	
⊞ East Campus	Acute rest MPI	2	2	4
	Cardiac cath	57	75	132

Drill-thru reports

A drill-thru report is a report that can be opened by clicking a link from another report. If a report allows drill through to another report, you will see this tooltip Click for details when your cursor hovers over a clickable cell, and/or the cell value will look like a hyperlink (blue underlined). After you are done reviewing the detailed report that was opened, simply click the back arrow on your internet browser to get back to the summary report.



Echo summary of appropriateness (AUC)

From 1/1/2011 **to** 1/1/2016
Facility: All

Group by: Study type **Study type:** All

Study type	Appropriate	May be appropriate	Rarely appropriate	Not evaluated	[Blank]	Total
ECG-only stress	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1
Echocardiography	1 (50.0 %)	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1 (50.0 %)	2
Epicardial	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	1
Intracardiac	0 (0.0 %)	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	0 (0.0 %)	1
Other	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	1
Stress echo	1 (14.3 %)	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	6 (85.7 %)	7
TEE/Cardioversion	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1
TEE/ECE	0 (0.0 %)	0 (0.0 %)	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	1
TEE/ICE	0 (0.0 %)	0 (0.0 %)	1 (100.0 %)	0 (0.0 %)	0 (0.0 %)	1
Transesophageal	1 (50.0 %)	0 (0.0 %)				
Transthoracic	0 (0.0 %)	1 (100.0 %)				
TTE + Stress	0 (0.0 %)	0 (0.0 %)				
All	3 (15.0 %)	3 (15.0 %)				

Click for details

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Case list for echo appropriateness (AUC)

From 1/1/2011 **to** 1/1/2016
Facility: All

Confirming Physician: All
Sonographer: All
Referring Physician: All
Study type: All
AUC category: Appropriate

Confirming physician	Sonographer	Referring physician	Patient name	Study date	Study type	AUC evaluation
Chandler, Pauline	Farrell, Bruce	Willis, Beth MD	May, Alex (214637)	1/1/2012	Stress echo	**8 - Appropriate** **Criteria:** #715-G:12
Hanna, Roger	Justice, Martin MD	Rowe, Benjamin MD	Rodgers, Ethel (214702)	1/1/2013	Transesophageal	**9 - Appropriate** **Criteria:** 191.7 **Desc:** Chronic Valvular Disease - Symptomatic - Severe mitral stenosis **Ref:** 2013 ACCF/ACR/ASE/ASNC/SCCT/SCMR Appropriate Utilization of Cardiovascular Imaging in Heart Failure
Abrams, Patricia MD	Becker, Mark	Robertson, Lynn	Graves, Steve (214703)	1/1/2011	Echocardiography	**7 - Appropriate**

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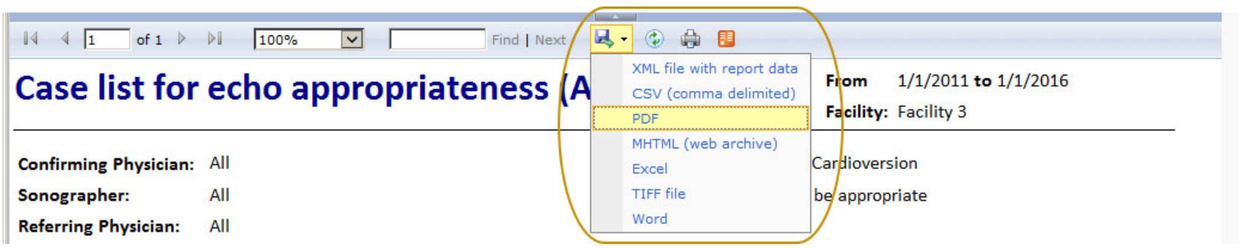
Searching report contents

While the report is open, you have the ability to search for text by typing it into the search box. This will search all fields/cells within the report for that text.

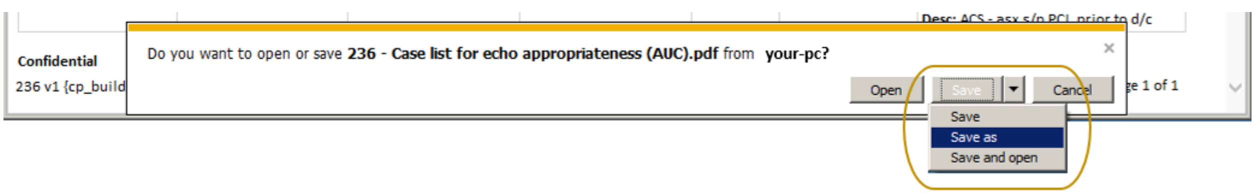
Saving a report

To ensure HIPAA guidelines are followed, reports containing PHI should be saved to a secure location or properly encrypted device. Please check with your IT administrator for your institution's policies regarding copying, exporting, saving, or sending protected patient information.

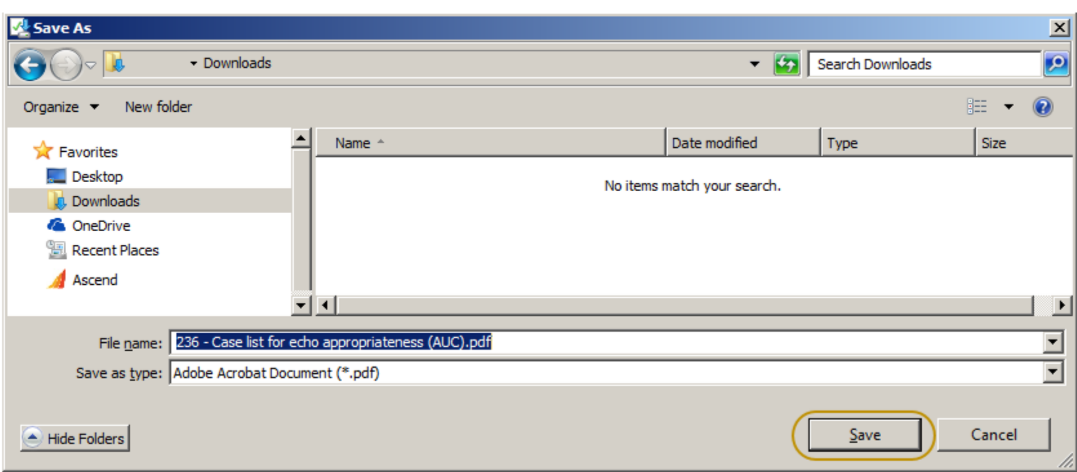
The two most commonly used file types to export and save reports are PDF and Excel. If you simply need to capture a snapshot of the report to save or send, choose PDF. If you need to work with the report data, choose Excel or CSV. Other formats are available, as shown below. Click on the [Save] icon with the green arrow and choose the type of file ~~you'd~~you would like to save the report as.



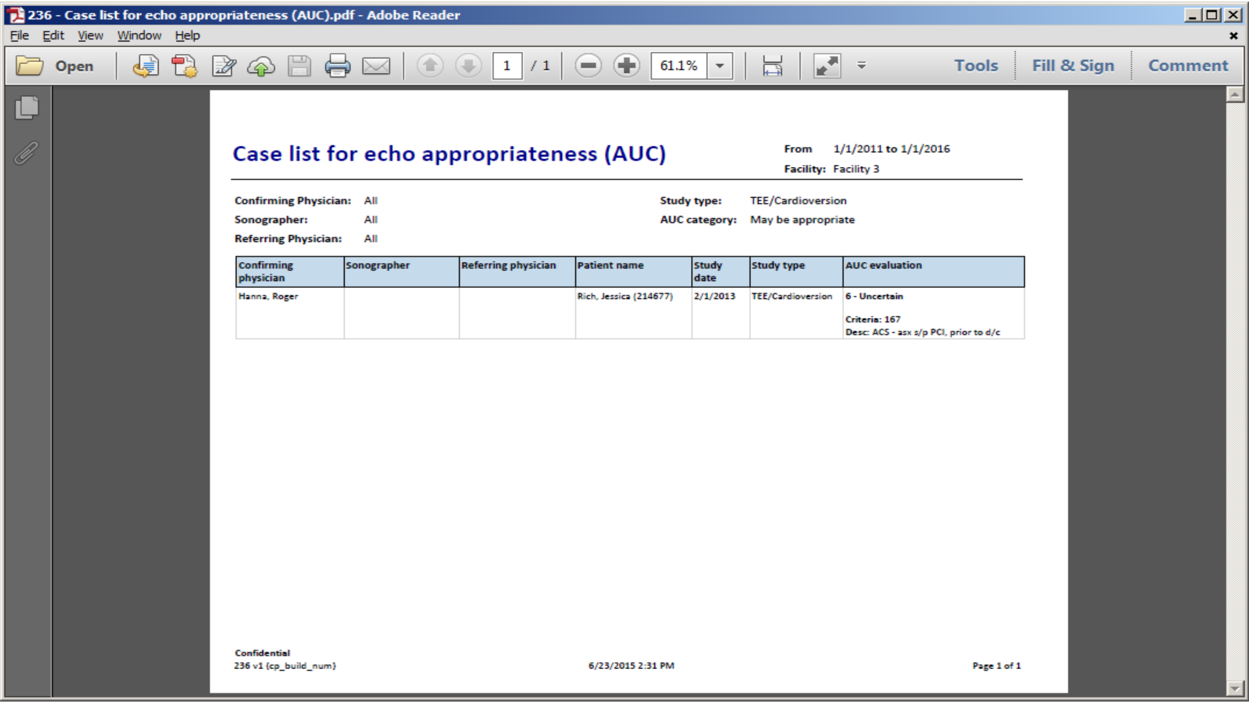
A prompt may appear in your browser, allowing you to open the file, save it, or save it under a different name/location.



Browse to an approved secure location where ~~you'd~~you would like to save the file and hit [Save].



Examples of a report saved as PDF and Excel.



Case list for echo appropriateness (AUC)

From 1/1/2011 **to** 1/1/2016
Facility: Facility 3

Confirming Physician: All
Sonographer: All
Referring Physician: All
Study type: TEE/Cardioversion
AUC category: May be appropriate

Confirming physician	Sonographer	Referring physician	Patient name	Study date	Study type	AUC evaluation
Hanna, Roger			Rich, Jessica (214677)	2/1/2013	TEE/Cardioversion	**6 - Uncertain** **Criteria: 167** **Desc: ACS - asx s/p PCI, prior to d/c**

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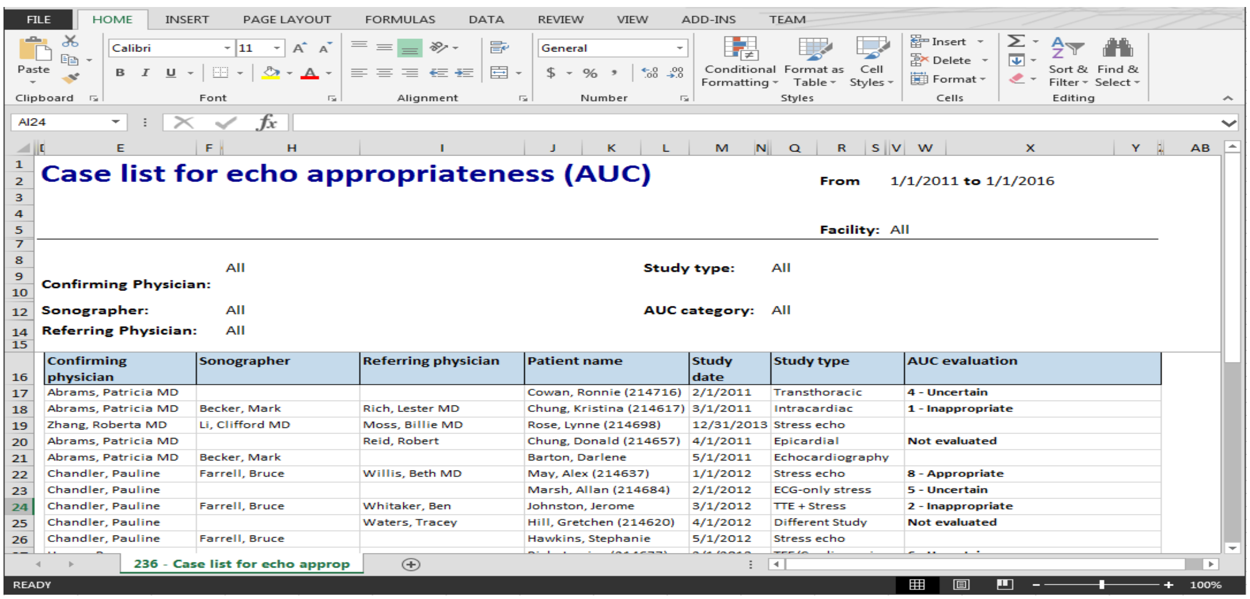


Case list for echo appropriateness (AUC)

From 1/1/2011 **to** 1/1/2016
Facility: All

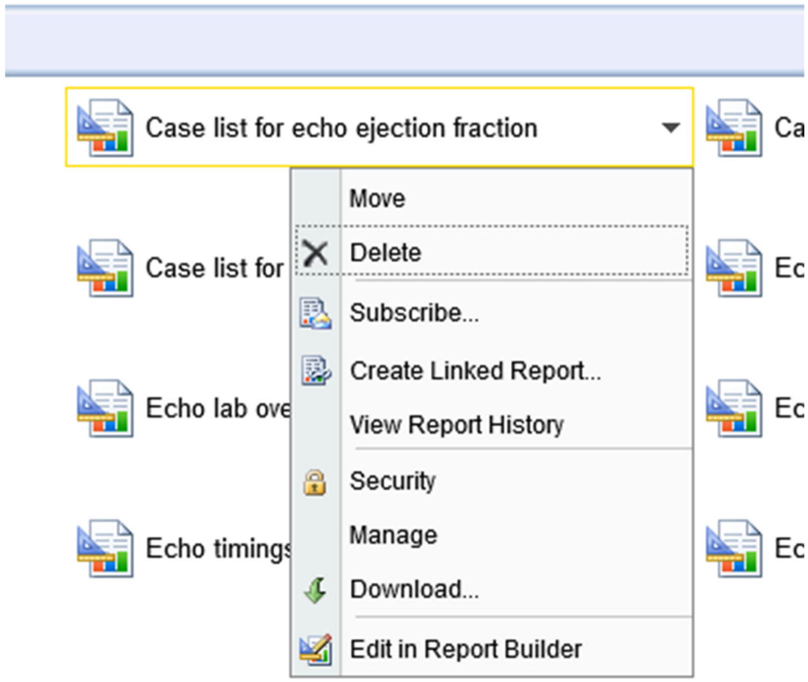
Confirming Physician: All
Sonographer: All
Referring Physician: All
Study type: All
AUC category: All

Confirming physician	Sonographer	Referring physician	Patient name	Study date	Study type	AUC evaluation
Abrams, Patricia MD			Cowan, Ronnie (214716)	2/1/2011	Transthoracic	**4 - Uncertain**
Abrams, Patricia MD	Becker, Mark	Rich, Lester MD	Chung, Kristina (214617)	3/1/2011	Intracardiac	**1 - Inappropriate**
Zhang, Roberta MD	Li, Clifford MD	Moss, Billie MD	Rose, Lynne (214698)	12/31/2013	Stress echo	
Abrams, Patricia MD		Reid, Robert	Chung, Donald (214657)	4/1/2011	Epicardial	**Not evaluated**
Abrams, Patricia MD	Becker, Mark		Barton, Darlene	5/1/2011	Echocardiography	
Chandler, Pauline	Farrell, Bruce	Willis, Beth MD	May, Alex (214637)	1/1/2012	Stress echo	**8 - Appropriate**
Chandler, Pauline			Marsh, Allan (214684)	2/1/2012	ECG-only stress	**5 - Uncertain**
Chandler, Pauline	Farrell, Bruce	Whitaker, Ben	Johnston, Jerome	3/1/2012	TTE + Stress	**2 - Inappropriate**
Chandler, Pauline		Waters, Tracey	Hill, Gretchen (214620)	4/1/2012	Different Study	**Not evaluated**
Chandler, Pauline	Farrell, Bruce		Hawkins, Stephanie	5/1/2012	Stress echo	

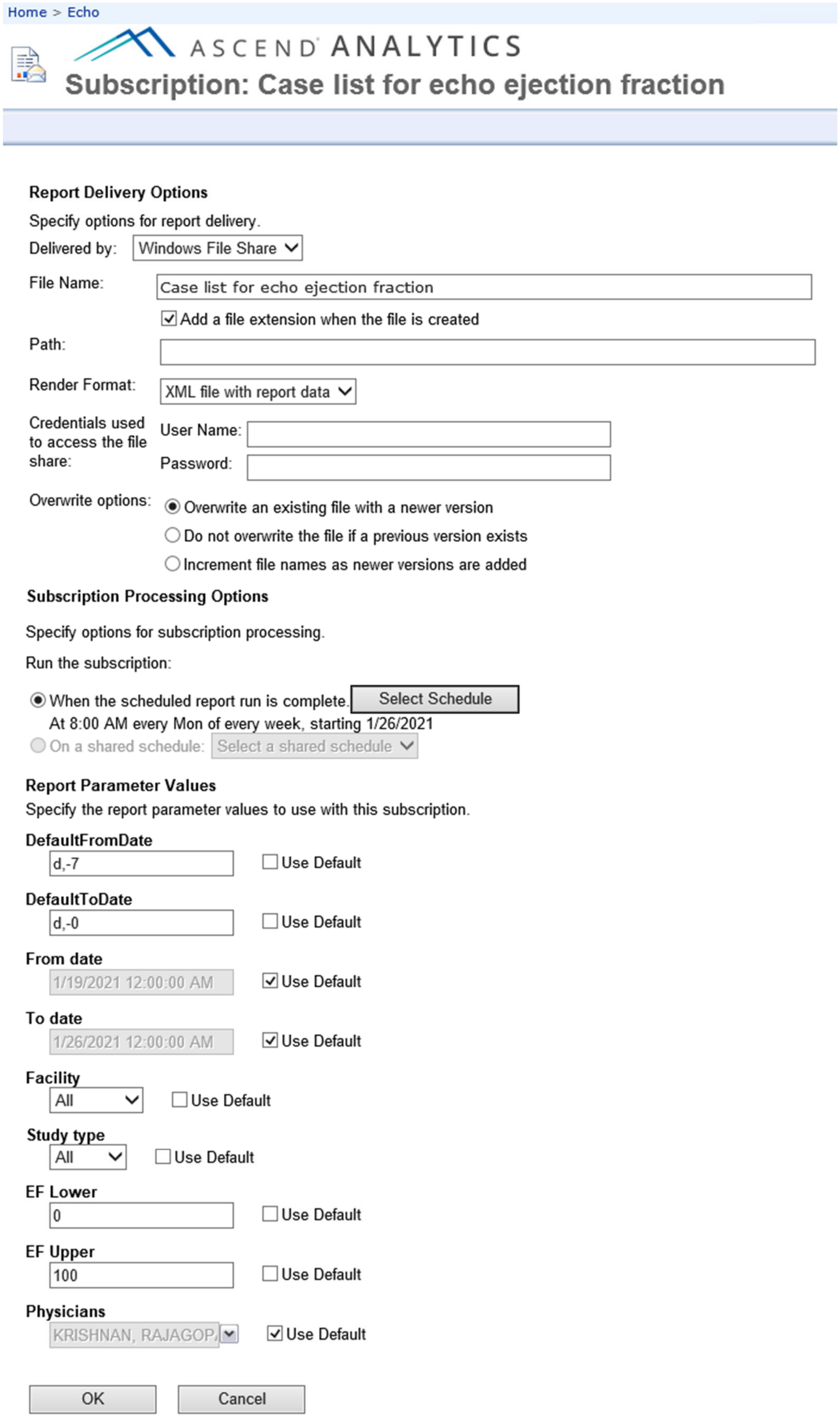
Scheduling reports for automated delivery

<<< edit the below, possibly get better screen grabs, clean up and make ready for everyone. Also look up the Microsoft documentation on this process, make sure it's aligned >>>

1. Open ASCEND Analytics using an admin account
2. Navigate to the folder containing the report you want to schedule, e.g. the **Echo** folder for report "Case list for echo ejection fraction"
3. Hover the mouse over the report name, and click the arrow on the right to open the context menu



4. Select "**Subscribe…**" – this will take you to the Subscription screen, where you will enter all necessary information to define the subscription:
   a. Delivered by: select **Windows File Share** to save the report output to file.
   b. File Name: a default file name is provided, the same as the report name. You can edit as needed or leave as-is.
   c. Path: specify the file path where you want the file saved. Any UNC path to a shared drive on the network is valid, as long as the user has access to it.
   d. Render Format: select the file format you want. For data exports, csv is a good choice.
   e. Credentials: enter the credentials for a Windows user who has access to the above network Path
   f. Select Schedule: use this button to specify the frequency and timing of the report run, e.g. daily, weekly, etc. and at what time of day.
   g. Report Parameter Values: this section allows you to change or set any report parameters, as needed. The most important parameters for scheduling are 'DefaultFromDate' and 'DefaultToDate'



Home > Echo

ASCEND ANALYTICS

Subscription: Case list for echo ejection fraction

Report Delivery Options

Specify options for report delivery.

Delivered by: Windows File Share

File Name: Case list for echo ejection fraction

☑ Add a file extension when the file is created

Path:

Render Format: XML file with report data

Credentials used to access the file share: User Name: Password:

Overwrite options:
- ◉ Overwrite an existing file with a newer version
- ○ Do not overwrite the file if a previous version exists
- ○ Increment file names as newer versions are added

Subscription Processing Options

Specify options for subscription processing.

Run the subscription:

◉ When the scheduled report run is complete. Select Schedule
At 8:00 AM every Mon of every week, starting 1/26/2021

○ On a shared schedule: Select a shared schedule

Report Parameter Values

Specify the report parameter values to use with this subscription.

Parameter	Value	Use Default
DefaultFromDate	d,-7	☐
DefaultToDate	d,-0	☐
From date	1/19/2021 12:00:00 AM	☑
To date	1/26/2021 12:00:00 AM	☑
Facility	All	☐
Study type	All	☐
EF Lower	0	☐
EF Upper	100	☐
Physicians	KRISHNAN, RAJAGOP/	☑

OK Cancel

Report editing and custom report creation

End-user report editing and custom report creation are accomplished using Microsoft Report Builder 3.0. Since the reports contain SQL code to extract the relevant report data from the database, knowledge of SQL is required for significant edits to existing reports, and to create new reports. Limited edits to formatting and client-side functionality (e.g. modifying parameter defaults) can be performed easily without SQL knowledge.

The document titled *ASCEND Analytics – Creating custom reports.doc* (included with your documentation) provides an in-depth walkthrough of the end-user report editing and custom report creation process.

Report Builder

Report Builder is a Microsoft application designed for end-user report creation and editing. The application can be downloaded from the ASCEND Analytics Web application (click on the ‘Report Builder’ button to download), or from Microsoft.

Help on Report Builder is available within the application, as well as online from Microsoft.

Clinical Schema Inspector (CSI)

CSI is an interactive documentation tool to explore the ASCEND Analytics database. The intended audience are ASCEND Analytics report creators/editors. The purpose of the tool is to show the relationship between data entered in the clinical reporting interface, and the same data stored in the ASCEND Analytics database.

CSI is accessible within the KB Editor Review tab. You can use KB Editor to open an ASCEND Reporting module for review, record data you are interested in querying with a custom Analytics report, and use the “Database results” action from the Actions dropdown to view the location and details of the recorded data in the ASCEND Analytics database.

Note: the CSI functionality is purely a documentation tool, its use does not affect the database. The tool only shows where specific clinical reporting data would be stored in the ASCEND Analytics database, it does not record any data to the database.

The document titled ASCEND *Analytics – Creating custom reports.doc* (included with your documentation) provides an in-depth walkthrough of the end-user report editing and custom report creation process, including more detailed instructions on how CSI should be used to assist in creating new custom reports.

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