

# RSNA® Image Share

Letting patients  
take control of their  
medical images

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## Quick Start User Guide

**Version 4.0**

**2017-02-03**

## **Contents**

[1. Introduction: RSNA Image Share Network](#)

[2. The Edge Server Web User Interface](#)

[2.1 Normal Use](#)

[3. Clinical Study Transfer](#)

[3.1 Sending Clinical Studies to the Clearinghouse](#)

[3.2 Retrieving Clinical Studies from the Clearinghouse](#)

[4. Research Study Transfer](#)

[4.1 Sending Research Studies to the Clearinghouse](#)

[4.2 Retrieving Research Studies from the Clearinghouse](#)

# 1. Introduction: RSNA Image Share Network

The RSNA Image Share Network (ISN) is a pilot project involving radiology sites and patients across the US, made possible by funding from the National Institute of Biomedical Imaging and Bioengineering (NIBIB). The goal of the project is to enable sharing of medical images under patient control. The ISN supports sharing directly with patients through the use of personal health record (PHR) accounts. It also enables sharing with other care sites participating in the ISN.

Radiology sites connect to the ISN using a device called the Edge Server. The Edge Server collects reports and accesses images from the site's radiology systems and lets site staff select a patient's studies and send them to the ISN. They are stored on a central document registry/repository called the Image Clearinghouse.

The current release of the Edge Server also retrieves images from the Clearinghouse in support of two different clinical use cases. For the "Send to Patient" use case, the patient is provided with a printout of the access information needed to retrieve their medical imaging records into an account they create on one of the PHR systems participating in the project. For the "Send to Site" use case, the user sends a patient's studies to the Clearinghouse and provides the information needed to retrieve them to authorized users at another participating site through whatever secure means have been established for communication between the sites (such as secure email or fax).

The Edge Server also supports sending and retrieving de-identified images for multi-site imaging clinical trials. Site administrators at the principal investigator (PI) site of the trial use the Edge Server to generate a security key for their trial and exchange this information with their peers at image acquisition sites participating in a given clinical trial. The image acquisition site's administrators use this information to configure the PI site as a destination for image sending. The Edge Server can then be used to de-identify and send images to the Clearinghouse. The PI site regularly polls the Clearinghouse for image studies tagged with its security key and retrieves and stores them for use in the clinical trial.

This document is intended to provide guidance to users of the Edge Server, typically radiology support staff at participating sites. A general description of the structure and function of the ISN is provided in ***Image Share Network Executive Overview v4.0***. Detailed instructions for installing and administering the Edge Server are available in ***Image Share Network Edge Server Installation and Administration v4.0***.

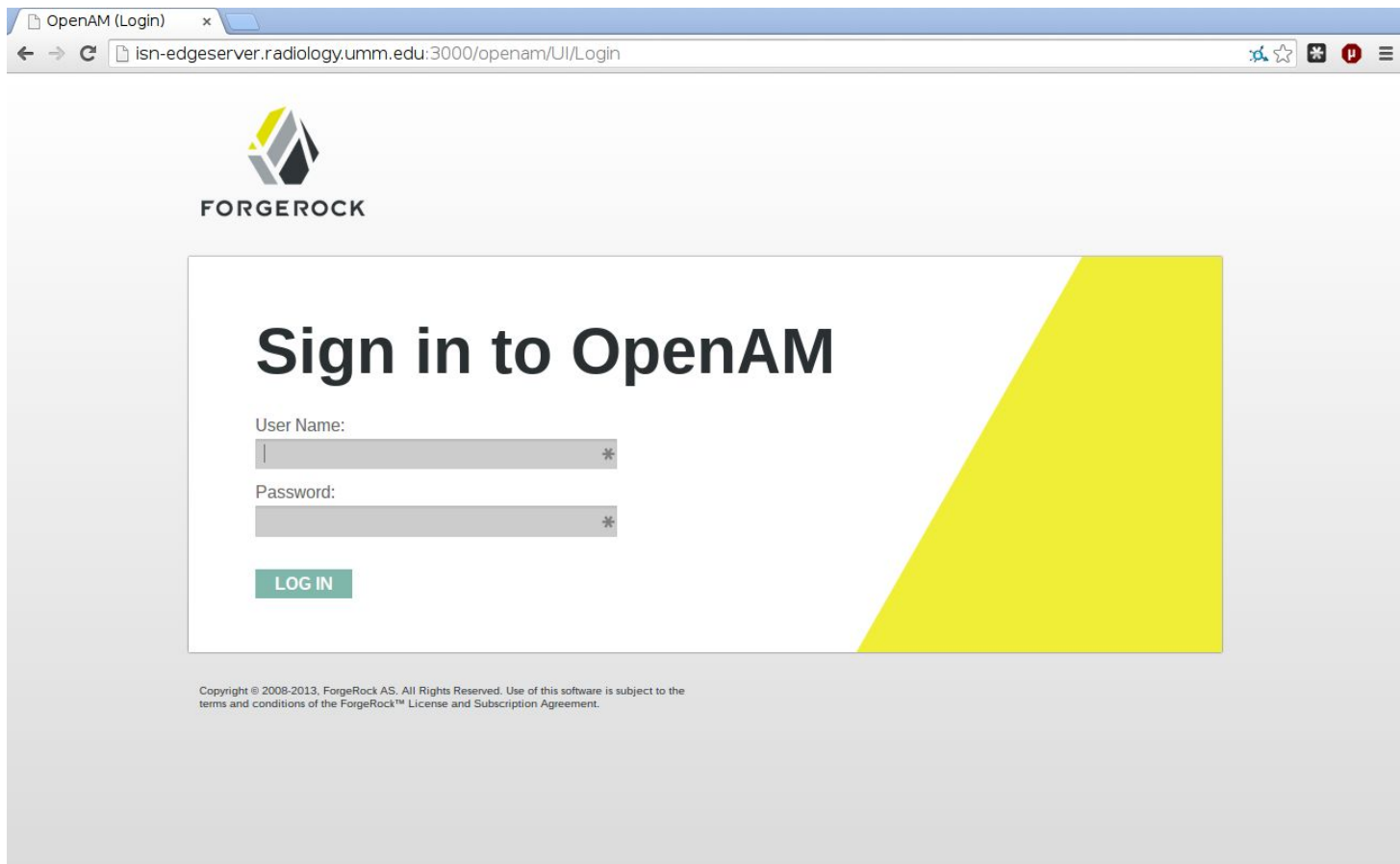
## 2. The Edge Server Web User Interface

The Edge Server is accessed via a Web-based user interface (UI) that provides both clinical and administrative functions. Administrators can configure DICOM devices that will be the source of imaging studies for the Edge Server, create and manage users, and track the status of studies sent. Administrative functions are documented in greater detail in ***RSNA Image Share Network Edge Server Installation, Upgrade and Administration Manual v4.0***.

### 2.1 Normal Use

The Edge Server user interface can be found at the URL (or IP address) that has been configured for your site. The administrator should provide the URL and bookmark it on your system.

When a user who is not logged in goes to the home address of the Edge Server, he will be presented with a login screen requesting a username and password. (Note that the initial user interface is the OpenAM access management component used in the Edge Server.) Your site's Edge Server administrator is responsible for creating accounts and providing users with their login credentials as described in the Installation and Administration Manual.



**Figure 2-1:** Login Screen

After logging in, you will be taken to the ISN application home screen. To start the process of sharing, begin by searching for the patient's imaging studies. Select the "Clinical" tab and click on the "Patient Search" button.

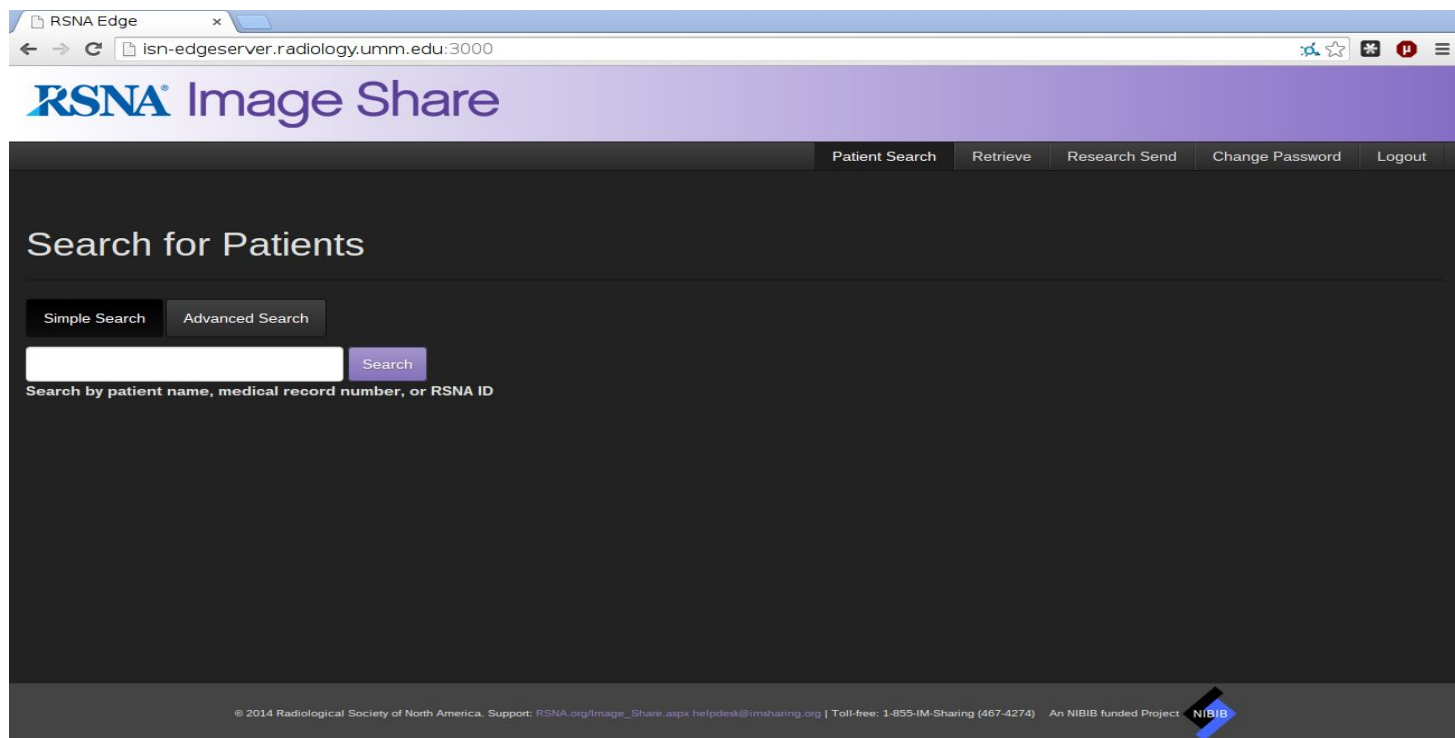


Figure 2-3: Patient Search

When you click “Search”, any matching results are presented in a list. Select the one(s) relevant to the patient.

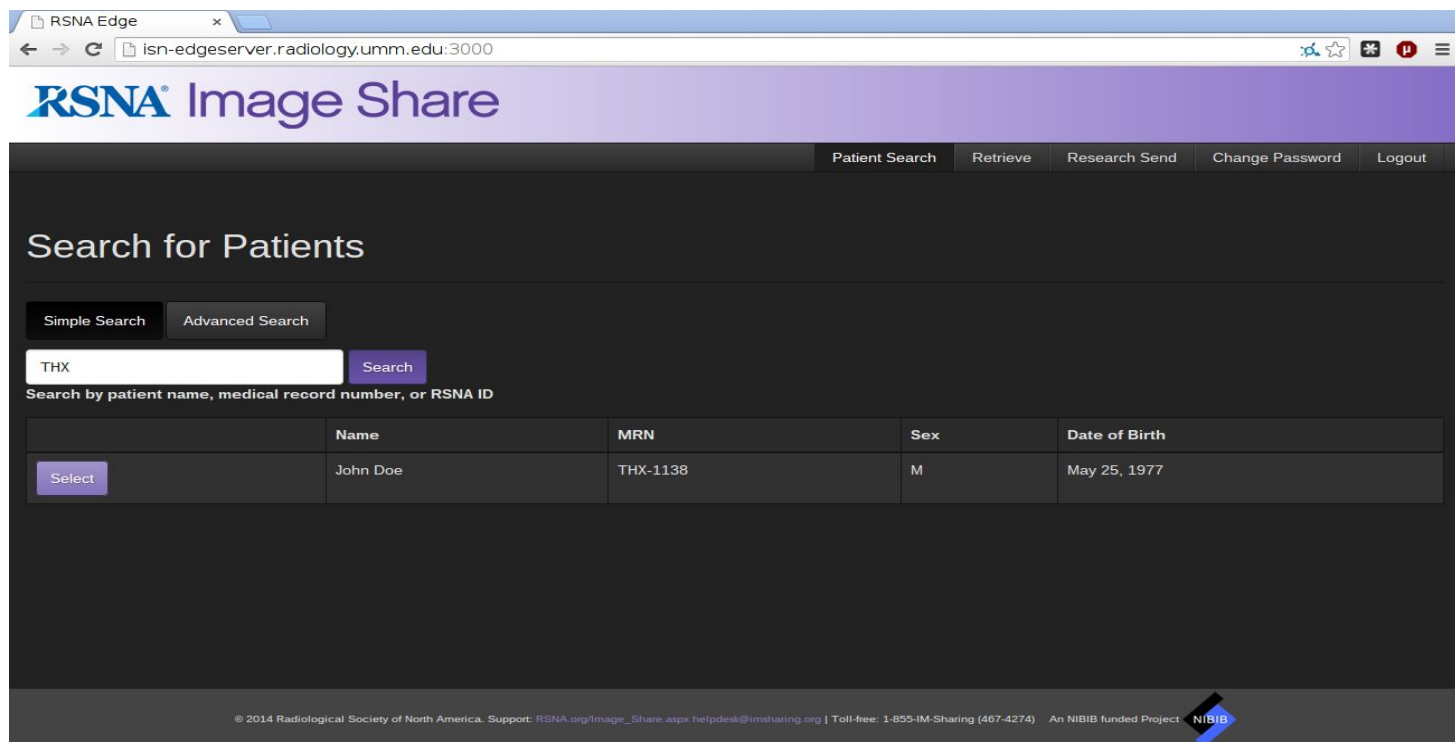
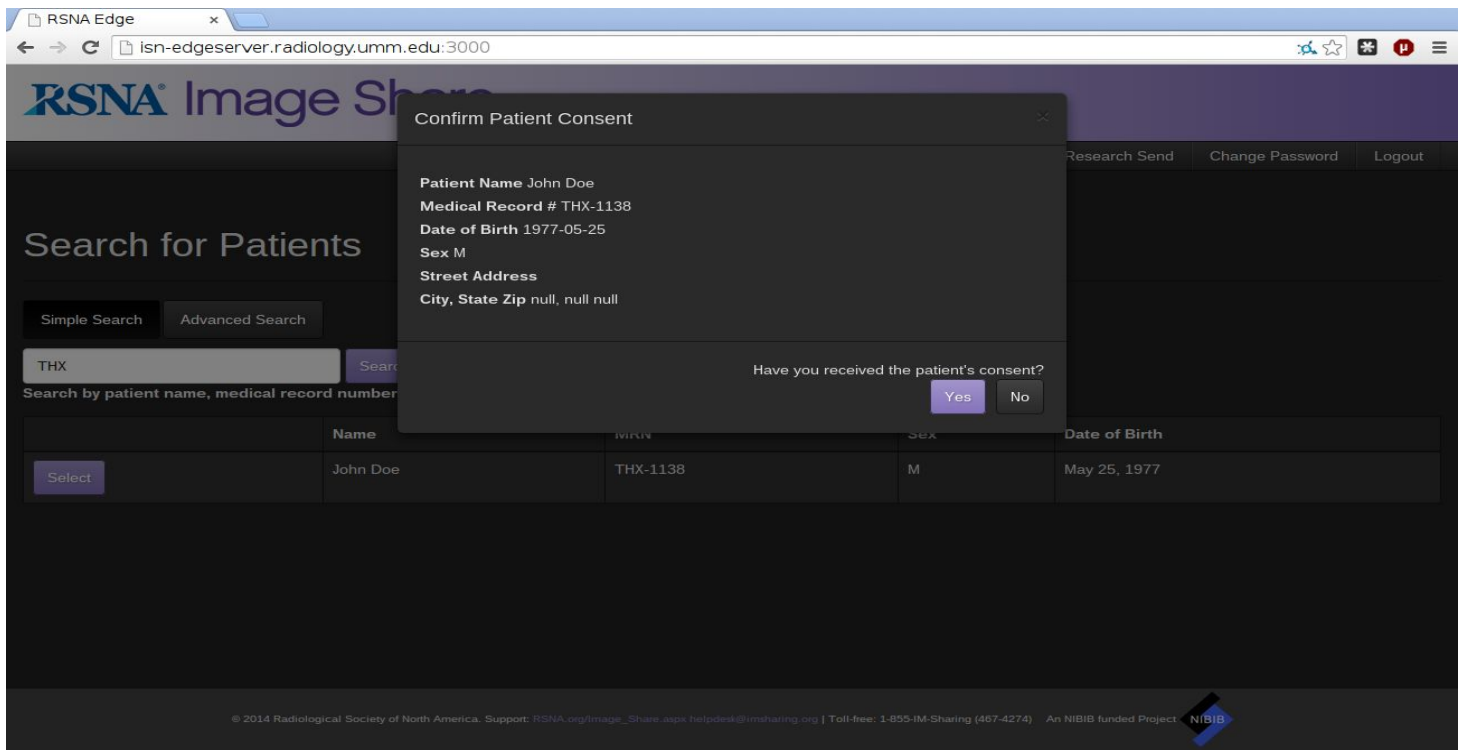


Figure 2-4: Search Results

Clicking the “Select” button prompts the user to confirm that the patient has provided their consent to share the study.



**Figure 2-5:** Patient Consent Confirmation

After consent is confirmed, a list of the selected patient’s exams is presented. These exams can be added to a “shopping-cart” style interface.

RSNA Edge

isn-edgeserver.radiology.umm.edu:3000/exams

RSNA Image Share

Patient Search

Exams

View Cart (0)

Retrieve

Research Send

Change Password

Logout

Exams for John Doe

Exam description

Show Cancelled Exams?

Filter

Select All

	Accession #	Exam Desc	Most Recent Change	Status
Add to Cart	21B.0010112358	CHEST X-RAY		Ordered

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An NIBIB funded Project

NIBIB

**Figure 2-6: Exam Selection**

Click “Add to cart” Click "Add to Cart" for each exam to be shared with the patient to prepare the selected exams to send.



RSNA Edge

isn-edgeserver.radiology.umm.edu:3000/exams

RSNA Image Share

Patient Search

Exams

View Cart (1)

Retrieve

Research Send

Change Password

Logout

Exams for John Doe

Exam description

Show Cancelled Exams?

Filter

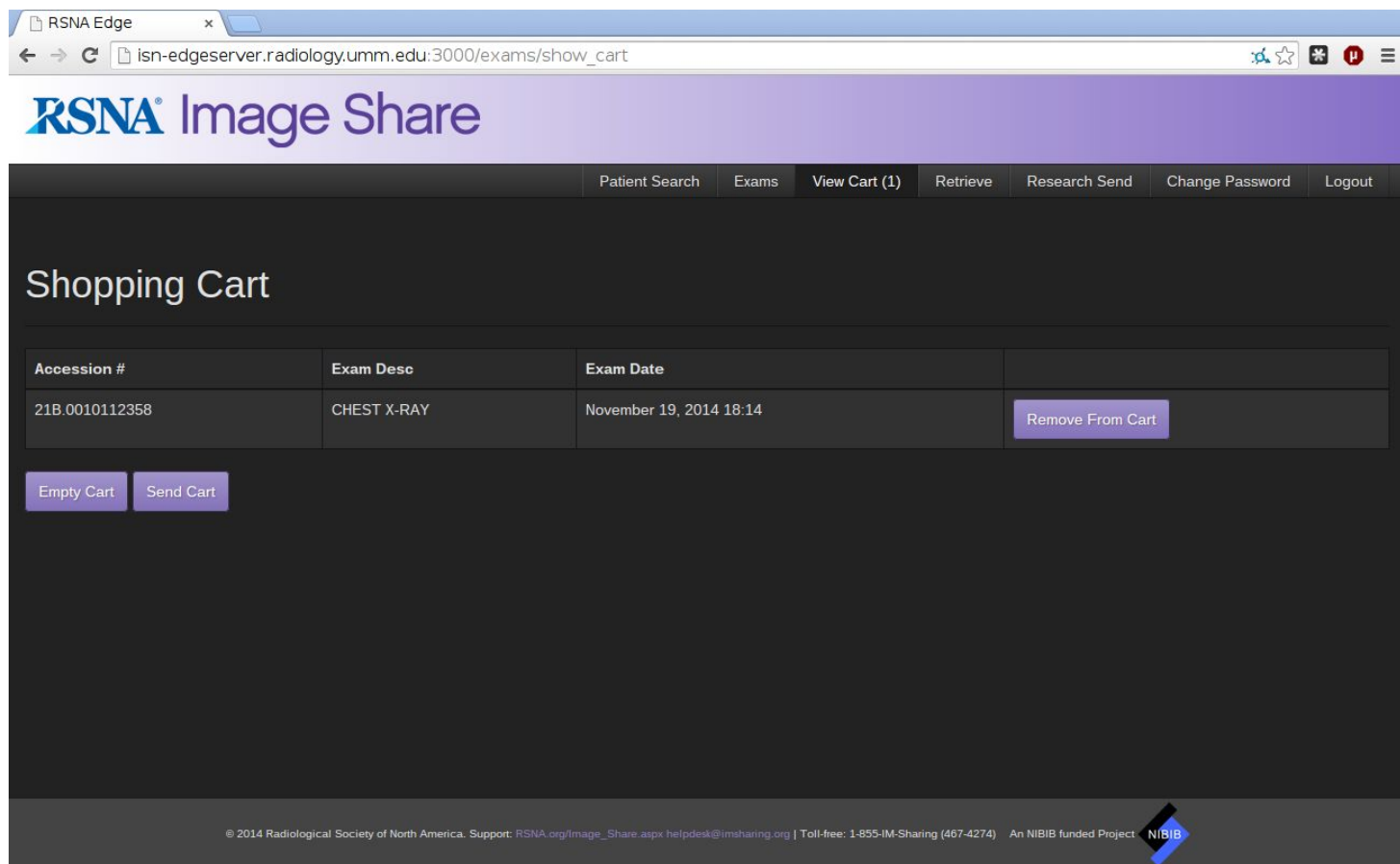
Select All

	Accession #	Exam Desc	Most Recent Change	Status
View Cart (1)	218.0010112358	CHEST X-RAY		Ordered

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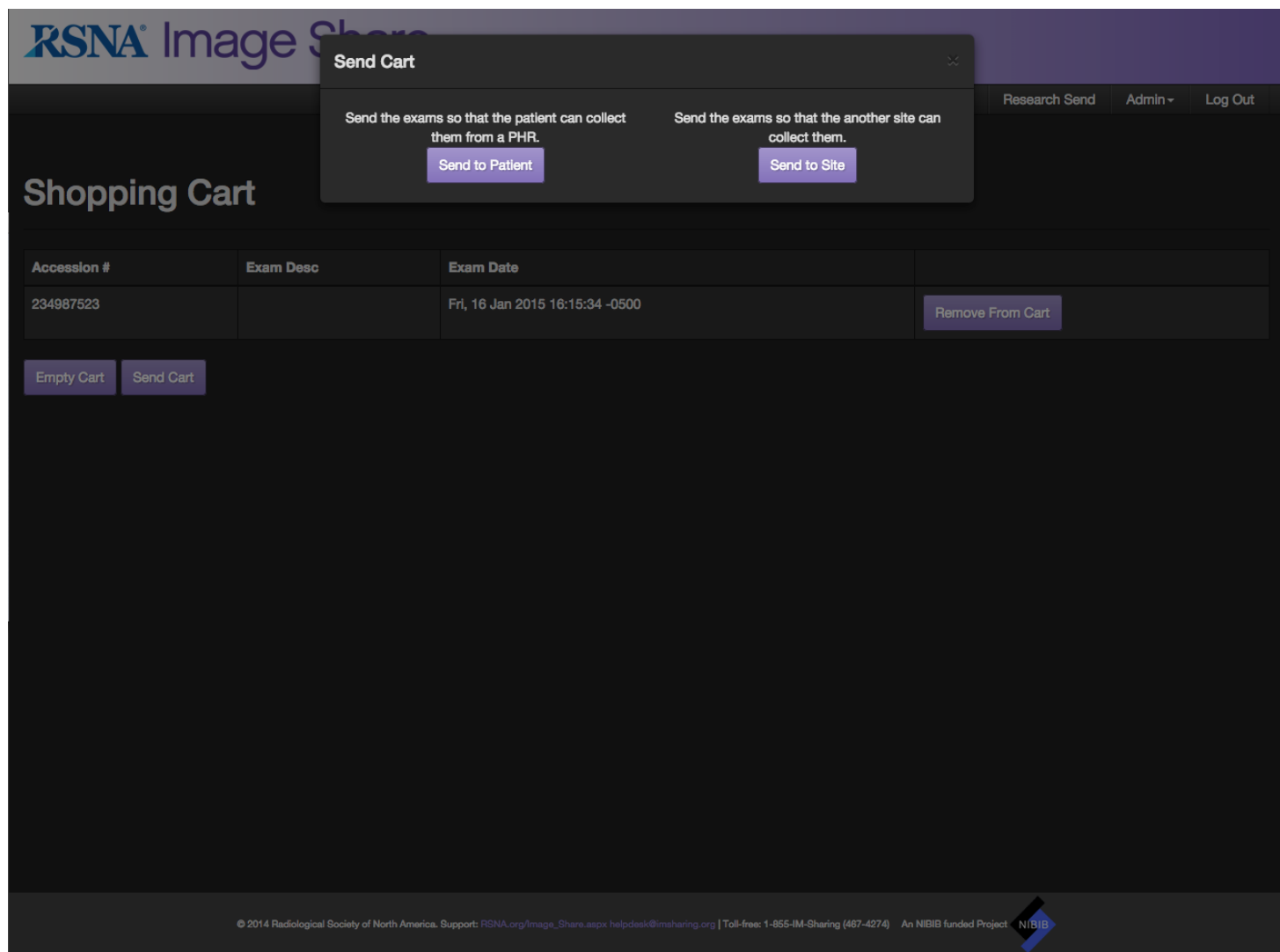
**Figure 2-7:** Selected Exams in the Cart

Click “View Cart” to view the list of all selected exams before sending.



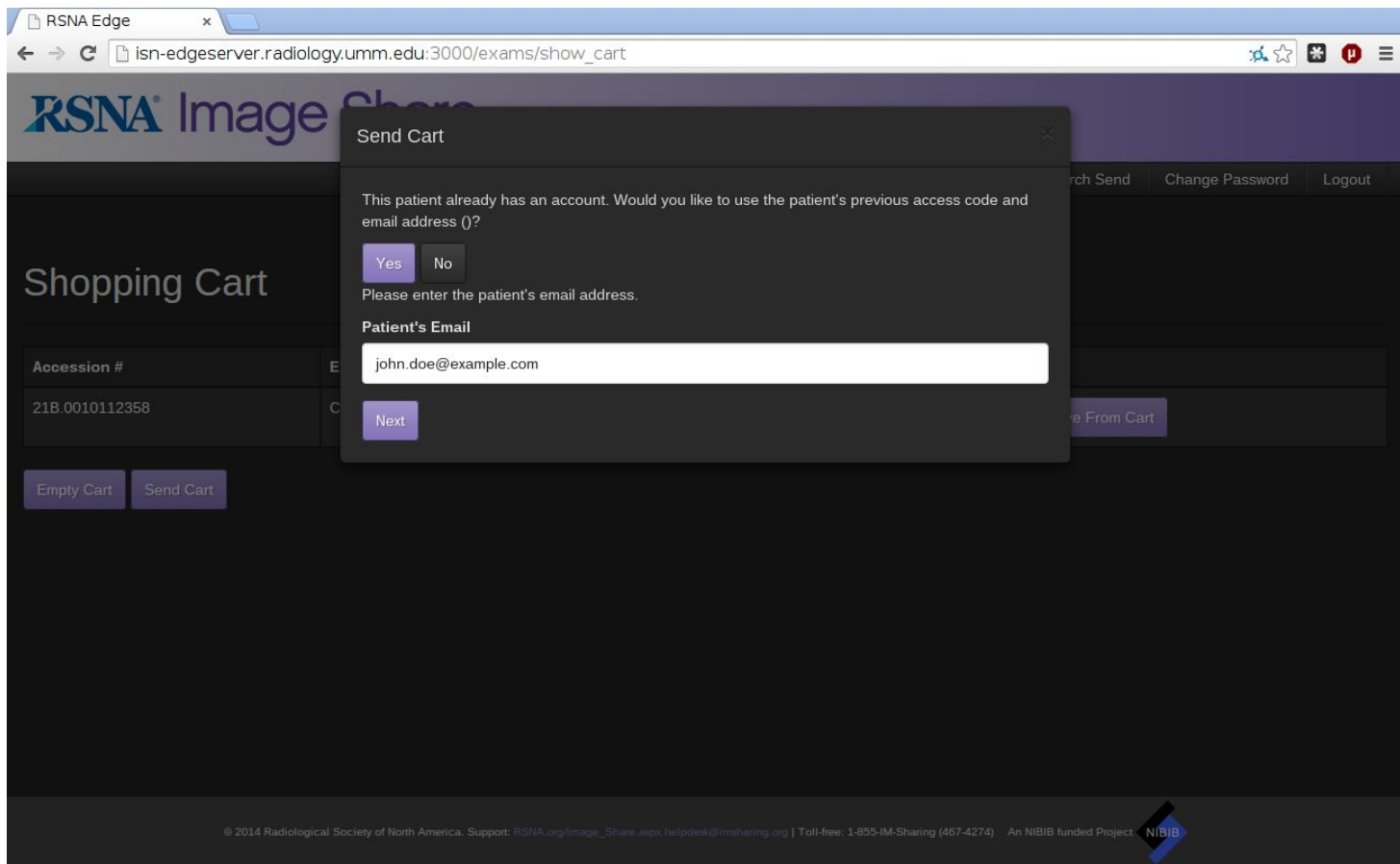
**Figure 2-8:** Sending Cart

When you click the “Send Cart” button, the Edge Server will prompt you to select either to “Send to Patient” or “Send to Site.”



**Figure 2-9:** Sending the Cart (with option for a PHR retrieval or site-to-site retrieval) with prompt for Patient Email.

If you select “Send to Patient”, you will be prompted to provide the patient’s email address, which will be used to send the patient instructions on how to retrieve their image studies into a PHR account. Gathering the patient email address is not mandatory, but highly recommended as it will allow the patient to receive email notification that the studies are available for access.



**Figure 2-10:** Patient with Previous Account

If the patient has previously had imaging studies sent through the Edge Server, the system will present a prompt screen indicating that fact and providing the email address previously used. You can send information using the previously entered email address or enter a new patient email address.

The email entry box cannot be left blank. If the patient email address is not available, entering “none” will enable the sending process to continue.

After you click “Next”, the Edge Server will prompt you to select the timing of when the patient’s exams will be sent.

RSNA Image Share

Send Cart

Delay to allow care provider to communicate with patient. Routine

Send as soon as final report available. When final report available

Send now, even if no final report available. Immediately

Research Send Admin Log Out

### Shopping Cart

Accession #	Exam Desc	Exam Date	
234987523		Fri, 16 Jan 2015 16:15:34 -0500	Remove From Cart

Empty Cart Send Cart

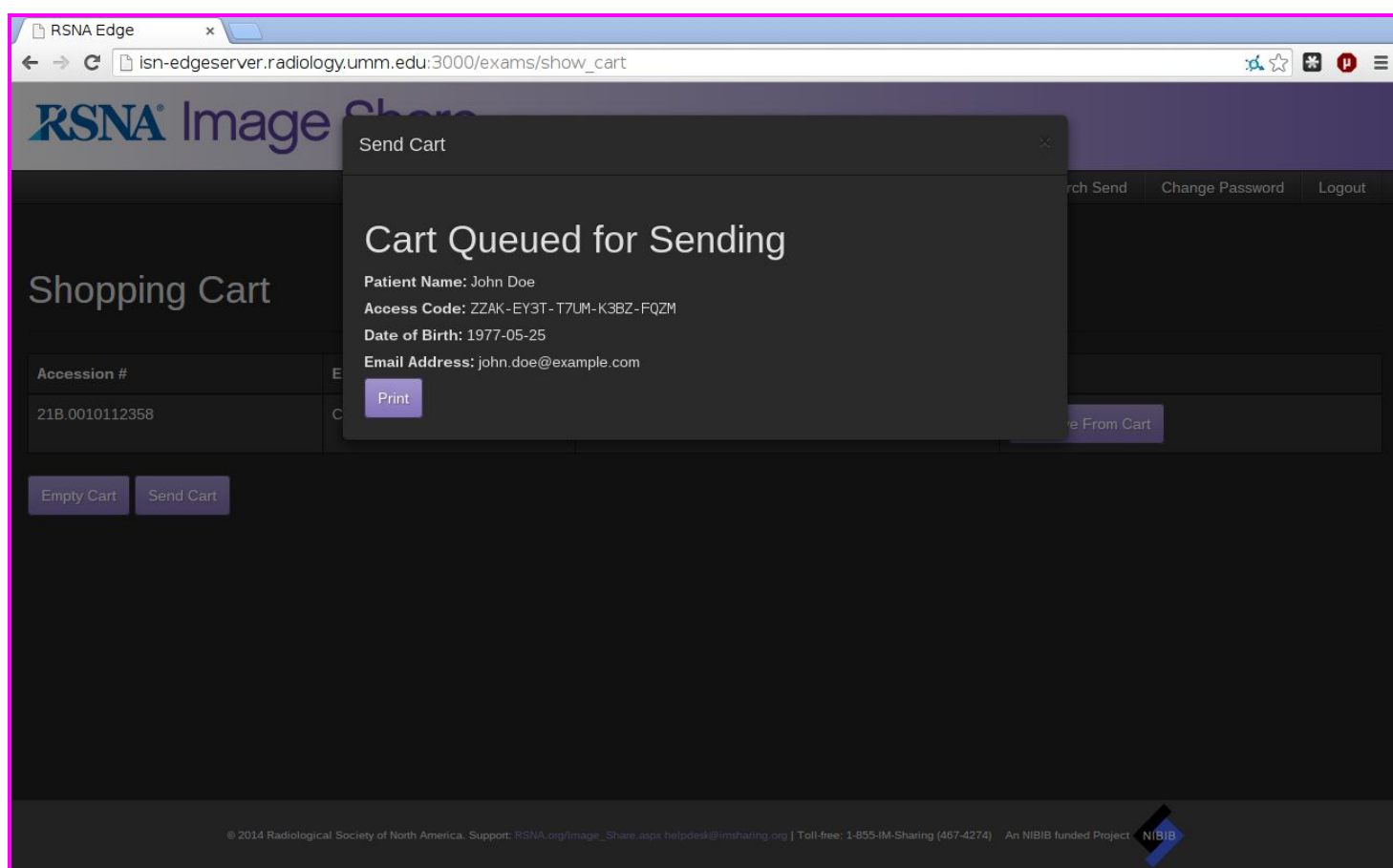
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**Figure 2-11: Options for Timing to Send Exams**

The options for timing to send exams can be configured by your administrator based on site policies. The default configurations are:

- Routine: The study will be sent 72 hours after the availability of a final report to allow communication by the radiologist and referring physician before the patient has access to the exam.
- When Final Report Available: The study will be sent as soon as the report is finalized.
- Immediately: The study will be sent immediately, even if there is no final report available.

Once you select the sending option, the patient's cart will be put in the Edge Server's queue for sending to the Clearinghouse. The Edge Server will pop up a window that includes a button to print a PDF page for the patient containing the information needed to retrieve their exams. This will include instructions on using PHR accounts and a unique Access Code generated by the Edge Server. (Please note that you may need to add an exception to any pop-up blockers active in your browser to allow the printout to appear.)



**Figure 2-12:** Exam Queued for Sending and Print Button for Patient Printout

Click “Print” and give the printout to the patient to use in retrieving their studies.

## Image Share Gives You Control of Your Medical Images

Thanks for agreeing to try Image Share, a network that lets you take control of your medical imaging results. Image Share was developed by the Radiological Society of North America (RSNA) and its partners with funding from the National Institute of Biomedical Imaging and Bioengineering.

There are three simple steps to using Image Share:

1. Staff will send your imaging records to a secure online data repository called the Image Clearinghouse so you can access them. **Note that the records may not be available in the Clearinghouse for up to 3 days to allow your care team to communicate with you about the results.**
2. You need to create an account on one of the participating image-enabled personal health record (PHR) systems:
  - DICOM Grid: <http://imageshare.dicomgrid.com>
  - ItMD: <http://share.itmd.net/claim>
  - lifeIMAGE: <https://cloud.lifeimage.com/rsna/phr>

Each of these sites provides simple instructions to creating an account and use it to get your imaging results. Be sure to record your PHR account information and keep it secure, as you do with all your valuable online information.

3. You use your PHR account to access and take control of your imaging results. You will need two pieces of information to access your information:
  - Date of Birth
  - Access Code: xde3c-31brs-tm7j8-bkhzc

Enter the information and retrieve the images and reports. You can then use your PHR account to share information with others you trust, including care providers. With your permission they can view the images and the report anywhere Internet access is available.

More information about the Image Share network is available at [http://www.rsna.org/Image\\_Share.aspx](http://www.rsna.org/Image_Share.aspx).

If you encounter any problems or have questions contact the Image Sharing Help Desk:

Email: [helpdesk@imsharing.org](mailto:helpdesk@imsharing.org)

Toll-free number: 1-855-IM-SHARING (467-4274)

Hours: 8am-8pm Eastern Time, Monday through Friday (except holidays)

**Figure 2-13:** Sample Exam ID Page Print Out

## 3. Clinical Study Transfer

Version 4.0 of the RSNA Edge Server includes the capability to make clinical studies available to other sites participating in the Image Share Network.

As in the Send to Patient use case, patient consent needs to be obtained before providing a patient's exams to care providers at another site. The patient's date of birth and the Access Code generated by the Edge Server for the patient's exams must then be communicated to the destination site through a method that meets the security policies of both the source and destination sites. Currently, this communication is outside the scope of the Edge Server and must be performed directly by site staff.

### 3.1 Sending Clinical Studies to the Clearinghouse

Clinical studies intended for review at another site are sent to the Clearinghouse in the same way as in the Send to Patient use case. As noted above, the parameters identifying the study (Access Code and date of birth) must then be communicated to the receiving site using a method conforms to both sites' security and privacy policies.

### 3.2 Retrieving Clinical Studies from the Clearinghouse

When a site receives notification that another site participating in the Image Share Network has made a patient's studies available for retrieval, site staff use the Edge Server to retrieve those studies from the Clearinghouse. To retrieve clinical studies from the Clearinghouse, a user at the retrieving site must be logged into the Edge Server as a member of the Import group so that they have access privileges to perform the retrieval.

To enter the Retrieve Studies window, click the "Retrieve" button on the main menu. The contents of the tab will appear as shown in Figure 3.1.2-1 below. Enter the Date of Birth and Access Code information obtained from the sending site in the input fields and click the Get Exam List button.



RSNA Edge - Mozilla Firefox

File Edit View History Bookmarks Tools Help

RSNA Edge

edge.wustl.edu:3000/patients/xds\_import

Google

**RSNA Image Share**

Patient Search Retrieve Research Send Log Out

## Retrieve

### Retrieve Studies from the RSNA Image Share

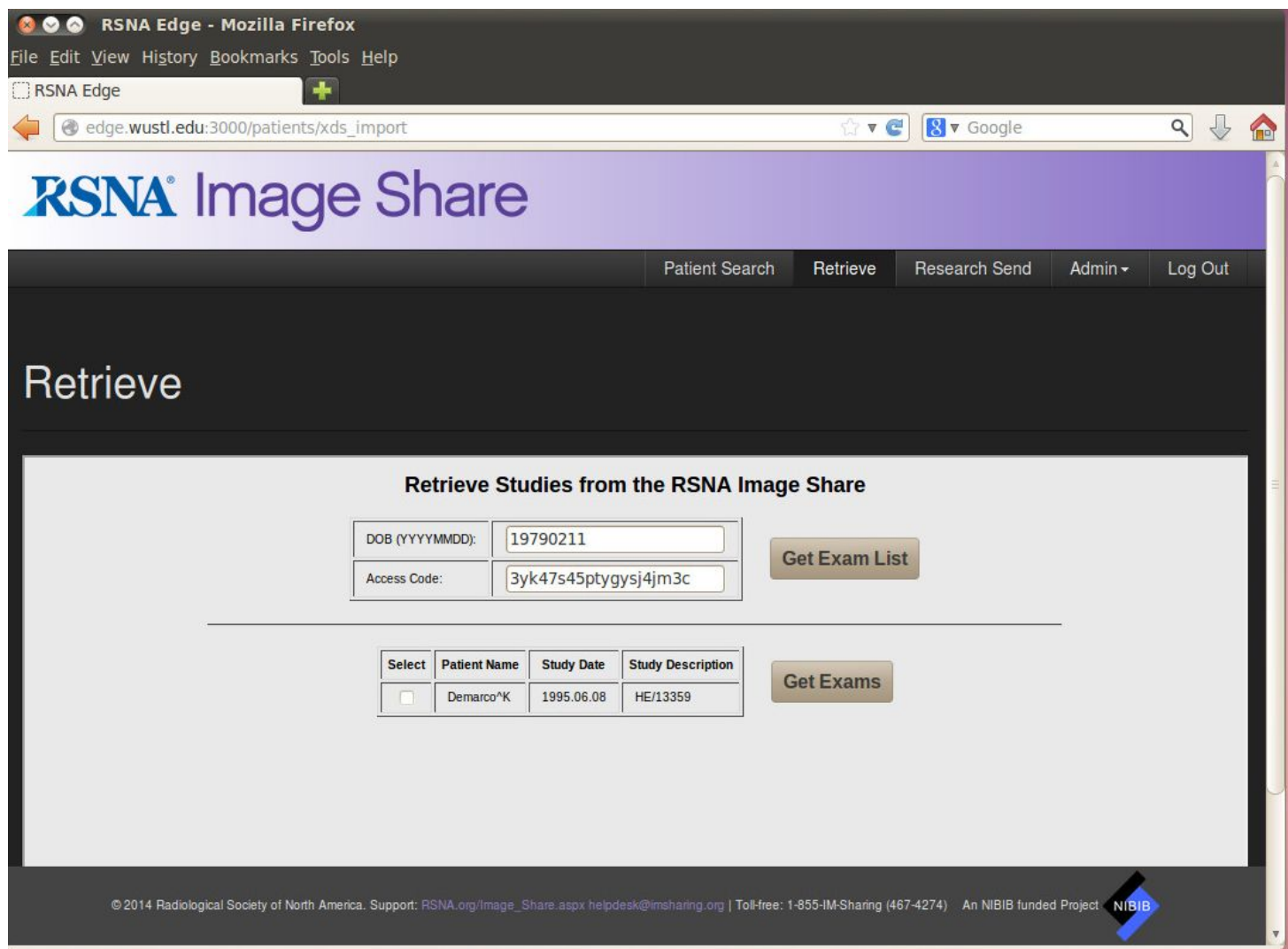
DOB (YYYYMMDD):	<input type="text"/>
Access Code:	<input type="text"/>

Get Exam List

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**Figure 3.2-1** Enter Exam Search Parameters

The system will query the RSNA Image Share for all exams that match the specified parameters. When it receives the list of matching exams, the Retrieve Studies window will update as shown in Figure 3.2-2 below.



**Figure 3.2-2: Select Exams for Retrieval**

When the available exams have been listed, select the checkboxes of the desired exams and then click the Get Exams button. The Edge Server will retrieve the selected exams from the Clearinghouse and process them as defined in the system configuration (for example, sending them to a workstation or a PACS).

## 4. Research Study Transfer

Version 3.2 of the Edge Server includes the capability to send de-identified studies to specific site destinations via the Clearinghouse for use in research imaging clinical trials.

### 4.1 Sending Research Studies to the Clearinghouse

Clinical studies that are to be used in clinical trials must first be transmitted from a capable DICOM device (such as PACS workstation or modality) to a DICOM destination configured in the Edge Server. The Edge Server automatically de-identifies the studies it receives and makes them available for transmission by any user who is logged into the Edge Server as a member of the Export group.

To enter the Send Studies pane, click the “Research” button on the main menu. The contents of the tab will appear as shown in Figure 4.1-1 below.

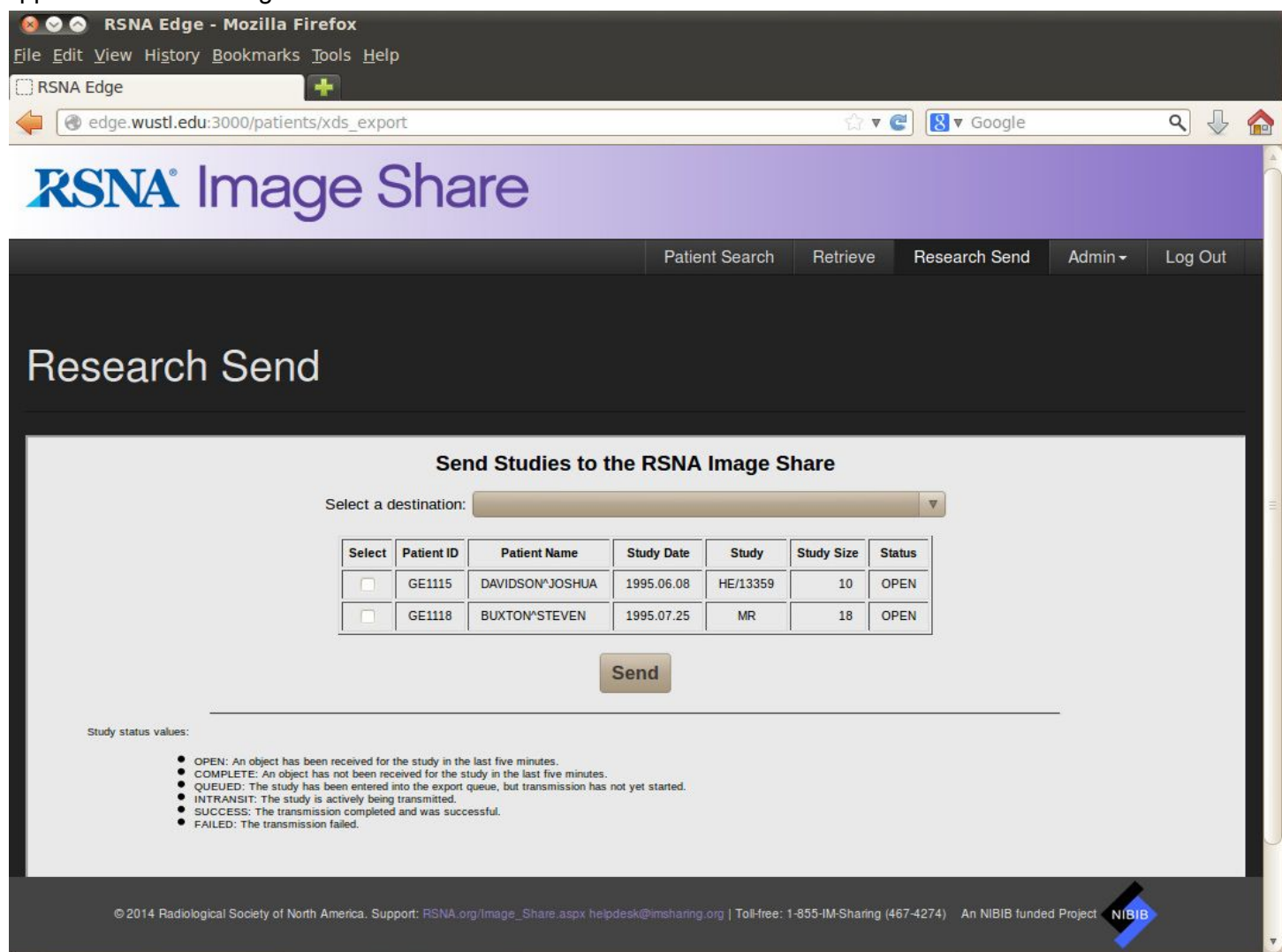
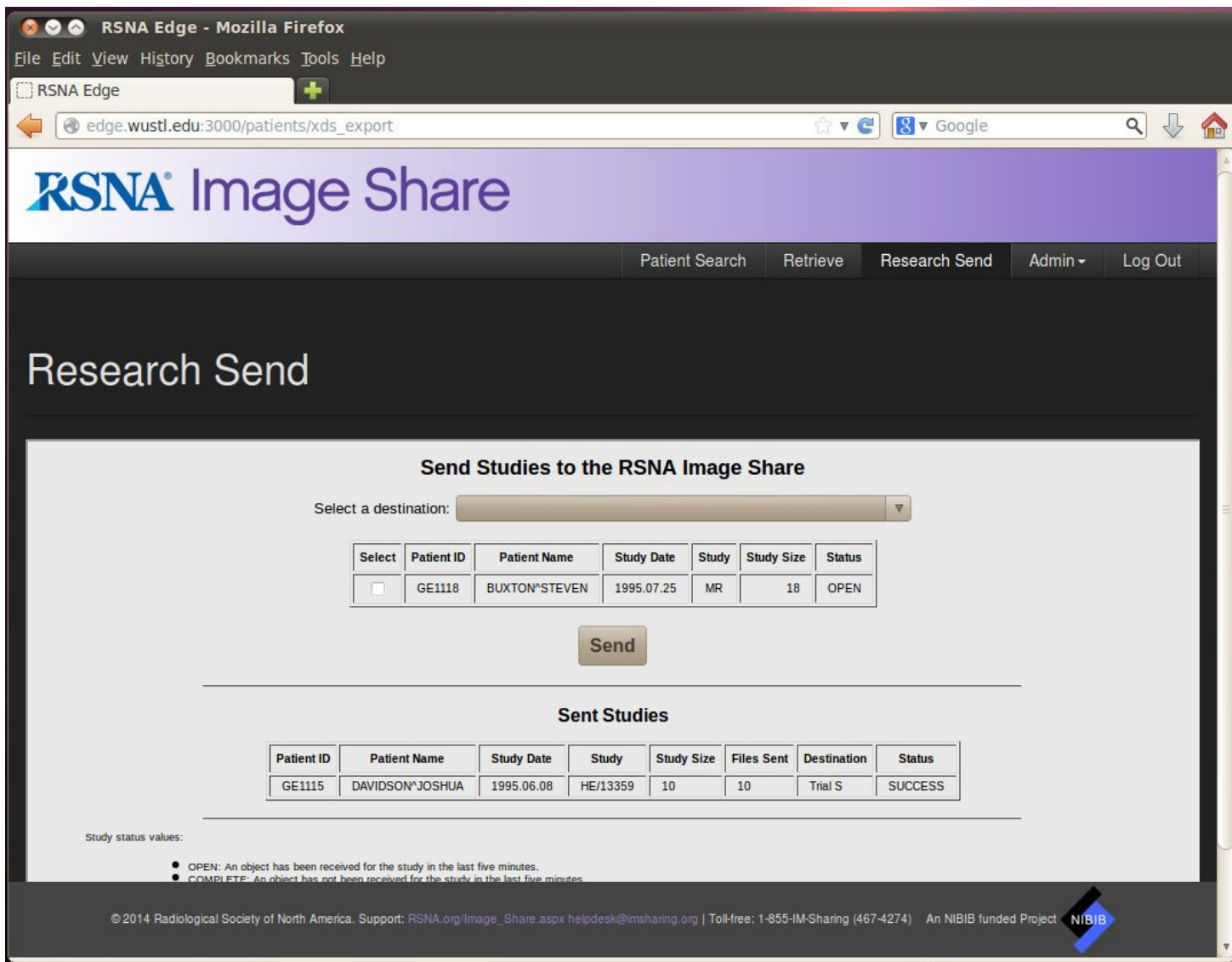


Figure 4.1-1: Research Sending Interface

The **Select a destination** drop-down list will contain the sites or trials that have been configured by the site administrator (following the configuration instructions in the installation manual). In the drop-down list, select the destination. In the study table, check the boxes of the studies to be transmitted. Finally, click the **Send** button. The contents of the window will refresh as shown in figure 4.1-2:



**Figure 4.1-2:** Research Sending Interface with Sent Study

The Status field in the lower table will update periodically to indicate the progress of the transmission.

## 4.2 Retrieving Research Studies from the Clearinghouse

At a receiving site for a research study, the Edge Server continually polls the Clearinghouse for de-identified studies for inclusion in its dataset. No manual intervention is required.