DO NOT print this document. Instructions will be updated.

MIM Support: 866-421-2536

1. How to save work while contouring:

    DO NOT repeatedly save RTstruct files.

    Concept: Save sessions for the following reasons:

    i. Site-specific setup workflows are used to automatically detect, load, register, arrange, and adjust display properties of images typically used for target and OAR delineation. The registrations of these images are then touched up by dosimetrists and receive proper QA from physics, including generation of a registration report. Saving sessions ensure all prior work on a patient from dosimetry, physics, and MDs are stored. Saving RTstructs alone fails to capture all of this information.

    ii. If only RTstructs are saved, dosimetrists and MDs will need to redo image registrations, layouts, etc each time they open a patient.

    iii. To avoid confusion, the only RTstruct in the list should be the final RTstruct that gets sent to the planning system.

    iv. Contours are auto-saved to the local computer every 10 minutes for disaster recovery in the event of a network crash (see "How to restore contours after network crash" below).

    b. Save Sessions by clicking the green floppy disk icon in the top toolbar and selecting the Save Session option. Confirm that the session is associated with planning CT (if not, select the planning CT from the drop down list). Use the following naming convention when labeling the session: <Initials>_<Step/FINAL>. For example:

    i. KM_1.0

    ii. KM_2.0

    iii. KM_3.0

    iv. KM_FINAL

    c. When closing sessions, always say NO to save a copy of contours.

2. How to merge MD and dosimetry contours into finalized RTStruct (if all contouring done in MIM):

    DO NOT repeatedly save RTstruct files during contouring.

    There should only be **one** RTstruct file containing finalized contours.

    Concept: Planning systems cannot handle information stored in MIM saved sessions. Therefore, the last step of the contouring process is creation of a finalized RT structure set that gets sent to the planning systems along with the planning CT. Because MIM utilizes a parallelized architecture in which dosimetrists and MDs can contour simultaneously, the finalized RTstruct

contains *merged* dosimetrist and MD contours. To avoid confusion during the merging process, a few housekeeping steps must be utilized:

- Physicians must append their initials to any normal structure contours they touch up. For example, Bladder would be renamed Bladder_CL in the MD saved sessions.
- Dosimetrists will need to *clean* physician contours before merging to eliminate duplicate normal contours. That is, normal structure contours that have *not* been touched up by MDs.

a. In the MIM patient list, select the **final MD saved session** for the patient (for example, CL_FINAL) and click the Open button in the lower left.
b. In the Contour tab, click the "-" button to delete all normal structures that do not have the physicians initials appended. For example, Bladder would be deleted, but Bladder_CL would not.
c. After cleaning, save a session with the following label: <MD>_<Dosimetrist>_FINAL_CLEAN. For example: CL_KS_FINAL_CLEAN.
d. Close the session.
e. In the MIM patient list, select the **final dosimetrist saved session** for the patient (for example, KM_FINAL) and click the Open button at the lower left.
f. Click the yellow hard hat in the top toolbar and run the workflow "FH Merge MD and Dos Contours".
g. At the prompt, select "Merge" to combine finalized MD contours with finalized dosimetrist contours.
h. If normal structures with physician initials appended exist in the list of merged structures, delete the corresponding dosimetrist contours. For example, if Bladder_CL is present in the list of merged structures, delete the Bladder contour.
i. Save a session labeled <MD>_<Dosimetrist>_COMPLETE. For example, CL_KM_COMPLETE
j. Have the physician take one last look at the contours for approval.
k. Click the green floppy disk icon in the top toolbar and select the "Save RTstruct" option. Use the following naming convention when labeling the RTstruct: <MD>_<Dosimetrist>_COMPLETE. For example: CL_KM_COMPLETE.
l. The table below illustrates the labeling and merging process.

Item	Dosimetrist	MD
Session (normal contouring)	KM_1.0	CL_1.0
	KM_2.0	CL_2.0
	:	:
	KM_FINAL	CL_FINAL
Session (cleaned MD contours)		CL_KM_FINAL_CLEAN
Run "FH Merge MD and Dos Contours" Workflow		
Session	CL_KM_COMPLETE	
RTStruct	CL_KM_COMPLETE	

     m. Send the simplified RTstruct and planning CT to the planning system.

3. How to transfer contours from original CT to rescan/new CT:

    DO NOT use the "Adaptive Recontour – Deform" workflow provided by MIM.

    Concept: Offline adaptive radiotherapy (ART) is typically performed to compensate for changes in the patient anatomy during a course of treatment (e.g., weight loss). The "FH Append Rescan CT for ART" workflow was created to transfer contours from the original CT to the rescan/new CT while keeping all of the original ancillary scans used to construct the original plan. For most cases, this is the preferred workflow. An alternative is to run the "FH Transfer Contours – Deformable" workflow. If it is desired to rigidly transfer contours, run the "FH Transfer Contours – Rigid" workflow.

    a. In the Patient List, open the final saved session for the original plan and navigate to Page 1. In most cases, this page will look very busy.

    b. Go back to the Patient List, select the rescan CT and then click the Open button.

    c. From within the session, click the yellow hard hat and run the "FH Append Rescan CT for ART" workflow. The workflow will create two new hanging protocol pages, one to evaluate the registration between original and rescan CTs and another three plane hanging protocol for contouring on the rescan CT.

    d. After workflow finishes, navigate to the Rescan CT page and touch up the transferred contours. Save sessions during touch up following instructions above in #1.

    e. Have the physician touch up target contours and save sessions during touch up following instructions above in #1.

    f. When complete, generate new RTstruct by using instructions in #2.

4. How to query and retrieve from PACS:

    Concept: Images can be queried and retrieved from PACS when using MIM from the following locations:

      - Citrix
      - Monaco workstations
      - Masterplan (HDR)
      - BigMac

    a. In the MIM patient list, click the green "PACS Query" icon on the left of the screen.

    b. Enter patient criteria to search PACS (for example, patient name, dates of scan, modality, etc)

    c. Click the Search button.

    d. In the query results, select the images to use for delineation.

    e. Click the green "MIM Clinic Database" button on the "Send To" tab in the lower right of the screen to retrieve the images from PACS to MIM.

5. Extract 4D-CT 20% and 50% Phases for Chest and Abdomen Setup Workflows:

Concept: The 20% (chest) and 50% (gated abdomen) phases need to be extracted from the 4D-CT studysets to use as reference images for treatment planning.

    a. In Patient List, select all 4D phase images.

    b. Run the "FH Auto-Extract 20% Phase CT" or "FH Auto-Extract 50% Phase CT" workflow.

    c. Use the extracted 4D phases as the primary studysets in the setup workflows.

6. Setup Workflows:

    Concept: Site-specific setup workflows are used to automatically detect, load, register, arrange, and adjust display properties of images *typically* used for target and OAR delineation. They permit use of images in *any orientation* without needing to reformat the images first. The setup workflows eliminate manually loading and labeling images and the need to use the MR Sim Image Reference Guide. <u>Use of setup workflows assumes all contouring will be performed in MIM.</u>

    a. Select CT sim images (including non-contrast, contrast, and 4D images if applicable), saved session from CT sim, PET and PETCT, and MR sim images of the patient

    b. Run the site-specific setup workflow. For example, FH Setup Brain.

    c. The workflow will save a session and close all images when complete.

    d. Open the saved session created by the workflow, press the left or right arrow keys on your keyboard to navigate to the "RegQA" pages. Verify the automated image registration and touch up if necessary.

        i. Note – the registrations are "live"; making changes in the RegQA pages will alter registrations on the delineation pages.

    e. Have physicist perform QA of image registration and generate registration report before proceeding with target and OAR delineation.

    f. The following table illustrates the typical clinical workflow for a new external beam patient using MIM:

Step	**MIM Workflow**	**Task**	**Owner**
1	FH CT Sim	Place setup reference point on planning CT	Therapist
2	FH Auto-Contour <Site>	Atlas-based auto-contouring	The Assistant
3		Query and retrieve images from PACS	Dosimetrist
4	FH Setup <Site>	Load, standardize, register, arrange, set displays for all images typically used for delineation	Dosimetrist
5		Verify image registration from setup workflow	Dosimetrist
6	FH Registration QA – Deform FH Registration QA - Rigid	Image and registration QA and report generation	Physics

8	FH Auto-ITV from 4D	ITV generation from propagated GTV contours across 4D phases	MD
10		Touch up normal contours Generate GTV, CTV, PTV, PRV	Dosimetrist MD
11		Clean MD normal contours	Dosimetrist
12	FH Merge MD and Dos Contours	Merges finalized MD and dosimetry contours into single session	Dosimetrist
13		Physician approves merged structures and generates wishlist	MD
14		Save completed RTstruct and session	Dosimetrist
15		Send planning CT and completed RTstruct to TPS	Dosimetrist

Setup workflows contain required and optional images.   See Appendix.

7. Extend CT Slices:
    Concept: Extends clipped CT slices superiorly or inferiorly to achieve lateral scatter equilibrium.
    a. Within a session, click the yellow hard hat and run the "FH Extend CT Slices" workflow.
    b. Adjust superior or inferior field-of-view markers.

8. Generate Wishlists:
    Concept: Functionality has been added to both MIM and Moniqa to generate wishlists without having to DICOM export the planning CT and RTstruct to the planning systems. Contours associated with the planning CT in an active MIM session are passed directly into Moniqa for wishlist generation.
    a. Open a session containing finalized and approved contours, then click the Moniqa icon in the top (shortcut) toolbar. Moniqa will open; log in to Moniqa using your Mosaiq username and password. The patient name and structures will be displayed in Moniqa.
    b. Select a wishlist template or manually place wishlist items (i.e., dose-volume constraints). Click the Save button when finished.
    c. Perform a DICOM export of the planning CT and finalized RTstruct to the planning system.

9. Generate Lung SBRT Plan DVH Summaries with MIM:
    Concept: MIM can automate generation of the evaluation spreadsheets for 1, 3, and 5 fraction lung SBRT plans, producing a DVH Summary report that can be printed as a pdf and included with the printed plan document in Mosaiq. This process requires: i) contour names must match those in the default MIM contour library for lung SBRT, ii) the "FH Post Lung SBRT" workflow must be

run to generate evaluation structures, iii) RTdose must be exported from the TPS to MIM prior to generating the DVH Summary report.

a. For the initial plan evaluation, DICOM export the CT, structure, plan, and dose file from the TPS to MIM. For subsequent evaluations, delete the previous RTdose file from MIM and then (re)export the RTdose file from the TPS.

b. In the MIM Patient List, select the planning CT (only), then run the "FH Evaluate Lung SBRT Plan" workflow.

c. Enter the (scaled) prescription dose and number of fractions when prompted by the workflow.

d. Select the PTV contour in the Contour sidebar when prompted by the workflow.

e. A DVH Summary report will open. Additional text can be entered onto the report manually if desired before printing.

Limitations:

a. Different contour interpolation algorithms between the TPS and MIM may result in small differences in dose-volume and maximum point dose results. Tolerances of -0.3% have been incorporated into the MIM DVH Summary to account for this effect.

b. Non-contoured structures, or contours with labels that differ from the defaults in the contour library, will NOT be displayed in the MIM DVH Summary.

c. The Liver must be contoured.

d. For multi-PTV plans, the current DVH Summary will work for OAR evaluation. Depending on the plan, PTV dose conformality may need to be evaluated with the lung SBRT spreadsheet.

e. Additional "tracking" structures must be added manually.

10. Dose Summation (Single CT; e.g., base+boost plans):

DO NOT use the "Dose Accumulation – Rigid" or "Dose Accumulation – Deformable" workflows provided by MIM

Concept: Automated generation of total plan with optional scaling. Permits generation of total plan DVH summary with Moniqa.

a. In Patient List, hold control key and select the following:
    i. CT, base dose, boost dose (do not select RTstructs or RTplans)

b. Run "FH Dose Summation – Boost" workflow.

c. At the prompt, enter appropriate scaling factors if one or both doses were not treated to full dose. If the doses were treated to full dose, leave scale factors set to 1/1.

d. Click on Dose tab and setup isodose lines

e. Click on Contours tab and turn on structures

f. To generate DVH Summary with Moniqa:
    i. Click the small DVH button in the accumulated dose subsection on Dose tab.
    ii. Select structures to view in DVH
    iii. Click "Save As" button in lower right of DVH window
    iv. Select "Spreadsheet"

     v.   Navigate to the patient's folder under pdf_output

     vi.   Enter a filename of 'mimdvh' (without quotes) and click Save

     vii.   Generate DVH Summary with Moniqa as usual

g.   To generate Total Plan report, run "FH Composite Dose Report" workflow.

     i.   Click camera icon in top toolbar and capture multiple screen shots in axial, sagittal, and coronal planes. Make sure the Contours tab is displayed so reviewers can associate colors with contour names.

     ii.   For one screen shot, display the dose tab to capture fractionations of accumulated doses.

     iii.   Click "Structured Reports" icon in top toolbar and select "FH Dose Summation" report

     iv.   In the report, click on the DVH and then select structures to add to DVH on left side of screen

     v.   Click checkbox to Display Statistics in Legend

     vi.   Click "Create PDF" icon at top of report window and store under patient folder in pdf_output

     vii.   Add to Mosaiq after appending DVH Summary of composite plan from Moniqa

11. Dose Summation (Multiple CTs):

DO NOT use the "Dose Accumulation – Rigid" or "Dose Accumulation – Deformable" workflows provided by MIM

Concept: Automated generation of composite plan with optional scaling and deformable registration. Permits generation of composite plan DVH summary with Moniqa.

a.   In Patient List, hold control key and select the following:

     i.   Old CT and old dose (do not select RTstruct or plan)

     ii.   New CT and new dose (do not select RTstruct or plan)

b.   Run "FH Dose Summation – Deform" or "FH Dose Summation – Rigid" workflow

c.   At the prompt, confirm MIM auto-detected the correct CT images and doses based on dates and timestamps

d.   At the prompt, enter appropriate scaling factors if one or both doses were not treated to full dose. If the doses were treated to full dose, leave scale factors set to 1/1.

e.   Double click on top left axial image to view accumulated dose on new CT image

f.   Click on Dose tab and setup isodose lines

g.   Click on Contours tab and turn on structures

h.   To generate DVH Summary with Moniqa:

     i.   Click the small DVH button in the accumulated dose subsection on Dose tab.

     ii.   Select structures to view in DVH

     iii.   Click "Save As" button in lower right of DVH window

     iv.   Select "Spreadsheet"

     v.   Navigate to the patient's folder under pdf_output

      vi.   Enter a filename of 'mimdvh' (without quotes) and click Save

     vii.   Generate DVH Summary with Moniqa as usual

  i.   To generate Composite Plan report, run "FH Print Composite Dose Report" workflow.

       i.   Click camera icon in top toolbar and capture multiple screen shots in axial, sagittal, and coronal planes. Make sure the Contours tab is displayed so reviewers can associate colors with contour names.

      ii.   For one screen shot, display the dose tab to capture fractionations of accumulated doses.

     iii.   Click "Structured Reports" icon in top toolbar and select "FH Dose Summation" report

     iv.   In the report, click on the DVH and then select structures to add to DVH on left side of screen

      v.   Click checkbox to Display Statistics in Legend

     vi.   Click "Create PDF" icon at top of report window and store under patient folder in pdf_output

     vii.   Add to Mosaiq after appending DVH Summary of composite plan from Moniqa

12. Dose Summation with BED/EQD2 scaling:

    Concept: Automated generation of composite plan including BED/EQD2 scaling of doses. BED scaling of all doses must be performed prior to dose summation. Physics and physician need to determine which α/β ratios and model to use for BED scaling.

  a. For each dose that will be BED scaled:

       i.   Select CT and dose to be scaled and click Open button in lower right of patient list

      ii.   On Dose tab, click "radioactive" button and choose BED scaling

     iii.   Select model and enter α/β ratios for each structure.

     iv.   Click green floppy disk and save scaled dose.

  b. Follow "Dose Summation" instructions above in #7, using BED scaled doses.

13. Manually start auto-contouring following Assistant failure:

    Concept: The libraries for atlas-based auto-contouring are stored on the MIM server. To maximize speed, all auto-contouring is performed on the MIM Server (network latency prohibits auto-contouring on other workstations using shared atlases). In the event of an Assistant failure, the auto-contouring process can be manually started from within MIM.

  a. In the MIM patient list, select the CT studyset to auto-contour.

  b. In the "Send To" tab, click on the **green** MIM Clinic Database button.

  c. Wait about 10 minutes, then refresh the MIM patient list. The auto-generated contours should be present.

14. Recover contours after network crash:

Concept: Contours are auto-saved every 10 minutes for disaster recovery. To save more frequently, click blue floppy disc icon in Contour tab and select "Quick Save Contours" option. Only the ten most recent "Quick Saves" will be stored and they will be stored on the local computer (not the MIM server).

    a. To recover contours, open the saved session for a patient, right-click on Settings (top toolbar) and select "Recover Autosaved Contours".

    b. Select the appropriate contour from the list based on time stamp and patient.

15. "MD wants to see how dose looks on patient with anatomy change"
DO NOT deform old dose to daily cone beam CT in MIM
DO NOT deform old dose to new planning CT in MIM
DO NOT recalculate dose on daily cone beam CT in MIM

    a. Rescan the patient on CT sim (ok to use daily CT-on-rails image)

    b. Transfer contours to rescan CT (see "How to transfer contours from old CT to rescan/new CT" above)

    c. Send rescan CT and new RTstruct to TPS

    d. Template the original plan and place on the rescan CT

    e. Recalculate dose

    f. Evaluate DVH and distribution to determine whether new plan is required

    g. The following table illustrates the clinical workflow:

Step	MIM Workflow	Task	Owner
1	FH CT Sim	Place setup reference point on rescan CT	Therapist
2	FH Append Rescan CT for ART	Transfers old contours to rescan CT and imports new setup reference point from CT sim	Dosimetrist
3		Touch up normal contours Touch up GTV, CTV, PTV, PRV	Dosimetrist MD
4		Clean MD normal contours	Dosimetrist
5	FH Merge MD and Dos Contours	Merges finalized MD and dosimetry contours into single session	Dosimetrist
6		Physician reviews and approves merged contours and generates wishlist	MD
7		Save completed RTstruct and session	Dosimetrist
8		Send rescan CT and completed RTstruct to TPS	Dosimetrist
9		Template original plan, place on rescan CT, recalculate dose	Dosimetrist
10		Evaluate distribution, DVH, and DVH summary	Dosimetrist and MD

16. Deform old dose to new or rescan CT for use as bias dose in Monaco:

> **Concept**: MIM can deform a previous dose to a new (or rescan) CT. The deformed dose can be used as a bias dose in Monaco. The current process utilizes a dummy plan created on the new (or rescan) CT in Monaco. This issue will be resolved in MIM 6.8.

    a. Create a dummy plan on the new or rescan CT in Monaco and calculate dose.

    b. Export the dummy plan, dose, CT, and structures to MIM Clinical.

    c. In MIM, select the CT and dose to deform (the old dose) and the new or rescan CT and dummy dose. Then run the "FH Create Deformed Bias Dose" workflow.

    a. At the prompt, adjust the clip box to limit the extent of the deformable registration over the region of interest.

    d. Click OK at the prompt to save the deformed bias dose.

    e. Send the new (or rescan) CT, plan, deformed bias dose, and structures to Monaco and import. Note that the structures will be those sent with the dummy plan, not the old plan.

17. Using MIM in Chart Rounds:

    a. <u>The night before chart rounds</u>, get the following lists from therapists:

        i. New patient starts

        ii. Boosts

        iii. Brachy patients

        iv. Gamma knife patients

        v. Confirm doses for all patients on lists are in MIM. If not, DICOM export the patient CT, structures, plan, and dose files to MIM clinical.

    b. 30 minutes before chart rounds:

        i. Launch MIM in Citrix:

            1. On FH computer, open Internet Explorer and go to Citrix (https://gateway.froedtert.com)

            2. Login using FH network login, open the Remote folder, and *single* click on MIM icon

            3. Enter FH network login at MIM prompt

        ii. Pre-load patient sessions:

            1. Within the MIM patient list, enter a portion of the patient's name into the "Name" field and hit enter.

            2. If the patient has only <u>one dose</u> file to review:

                a. Select the patient on the left column, then select the **planning CT** only (will have RTPlan, RTDose, and RTst objects under it)

                b. Select the workflow "FH Chart Rounds" and click the Open button.

            3. If the patient has <u>multiple dose</u> files to review:

                a. Select the patient on the left column, the select the planning CTs corresponding to the doses that need review (there may be one planning CT with base and boost doses or two planning CTs with individual doses)

b. Select the workflow "FH Chart Rounds with Auto-Sum" and click the open button. If only one planning CT has been selected the workflow will prompt you to enter the number of doses to review. Enter 2 to review both base and boost plan doses.

4. In the Contours tab, click the eyeball to turn off all contours, then selectively turn on PTVs and critical structures
5. If desired, modify isodose lines in the Dose tab.
6. Click the Patient icon in the upper left to return to the patient list to load another patient.

c. During Chart Rounds:
    i. Toggle between patients by clicking the Sessions button in the top left and selecting the pre-loaded patient session you want to review
    ii. Place the center of the crosshairs in the PTV.
    iii. Use the "1", "2", and "3" keys on the keyboard to quickly adjust the zoom.
    iv. Use the "v" key on the keyboard to quickly toggle between axial, sagittal, and coronal views.
    v. Use the Quick Isodose line to add the prescription dose if the prescription dose isodose is not in the list of default isodose lines.

18. How to create "Eval" contours:
Concept: A workflow, rather than contouring tool, is used in MIM to create Eval contours. The reduction size of the Eval contour is set dynamically when running the workflow.
a. Within a session, click the yellow hard hat in the top toolbar. Select the workflow "FH Generate Eval Contour" and click OK.
b. At the prompt, select the contour you wish to create an eval contour for in the Contour tab. Then click the Resume Workflow button.
c. Enter the reduction size (1=1mm, 2=2mm, 3=3mm, 4=4mm, 5=5mm, 10=10mm) to use when constructing the eval contour. Click the Resume Workflow button to continue.
d. Rename the Eval contour once the workflow finishes.

19. Create large patient body contour using multiple shifted CT scans:
Concept: Cropping and/or image artifacts will appear in large patient images whose anatomy exceeds the design FOV of the CT (typically 50cm diameter). Although extended FOV reconstructions may reduce some of the artifact, the geometric fidelity of the external anatomy may not be accurate. An accurate body contour can be obtained by registering a series of "shifted" CT scans of the patient.
a. In the MIM patient list, hold the control key and select the planning CT and up to two shifted CT scans of the patient.
b. Run the 'FH Multi-Scan Body Contour' workflow. Confirm the correct planning and shifted CT scans are selected.

c. Artifacts in the shifted CT scans will propagate as errors in the final patient contour. To circumvent this, the workflow prompts the user to select a "sagittal subvolume" on the shifted CT images that is free of artifacts. At the prompt, in the axial or coronal planes click and drag to select a sagittal sub-volume of slices on the first shifted CT scan that do not contain artifacts (e.g., just over half the patient). Repeat this process at the second prompt if a second shifted CT scan has been loaded.

d. Click OK at the prompts to adjust the whole body contour (there will be separate prompts for the planning CT and each shifted CT scan).

20. How to limit brain tumor PTV expansions to 3mm inside skull:
   a. Select the Bone contour. Click the Expand/Contract button, enter the distance of 0.3cm, select the 'Contract' operation, and click OK.
   b. Select the contracted bone contour and check the hard edge checkbox.
   c. Select the CTV (or volume to expand). Click the Expand/Contract button, indicate the name of the new contour (e.g., PTV), enter desired expansion, check the 'Do not overlap contours with hard edges' checkbox, and click OK.
   d. Select the PTV contour and click the Clean button.

21. Restore patient from MIM Archive:
   Concept: The Assistant is configured to automatically archive all patient data (images, sessions, and RTstruct files) in the MIM Clinic Database after eight weeks to "W:/MIM/Archive". All patient data can be restored from archive within MIM using a procedure analogous to querying and retrieving in PACS.
   a. In the MIM patient list, click the green "MIM Clinic Archive" icon on the left of the screen.
   b. Enter patient criteria to search archive (for example, patient name, dates of scan, modality, etc)
   c. Click the Search button.
   d. In the query results, select the files to restore.
   e. Click the green "MIM Clinic Database" button on the "Send To" tab in the lower right of the screen to retrieve the images from the archive back to MIM.

22. How to retrieve prior patient data from outside hospitals using MIMcloud:
   Concept: CT images, structures, plans, and dose files for patients treated at an outside hospital can be easily transferred to MIM through MIMcloud. Once in MIM, the files can be sent to planning systems or used to create composite plans. You will need the email address of a dosimetrist or physicist at the outside hospital who will be able to export the RT objects from the treatment planning system. The uploaded patient data will be available on MIMcloud for 90 days. After that it will be auto-deleted.
   a. Log in to the MIMcloud website (http://www.mimcloud.com) using your FH email. If you do not remember your password follow the link at the bottom of the screen.
   b. On the left side of the screen, click "Groups".

c. In the center of the screen, the Froedtert Health Inbox group will be selected. Click the "Manage" button.
d. Select the "Drop Box" tab in the popup window. Enter the email address of the dosimetrist or physicist at the outside hospital and click the Send Request button.
e. Follow up with an email to the dosimetrist or physicist at the outside hospital confirming they received the upload link and ask them to notify you when the upload is complete.
f. When you get the notification that the upload is complete, open MIM (the application not MIMcloud) and double click on the MIMcloud patient data source (upper left, under MIM Clinic Database, PACS Query, and MIM Clinic Archive). You may be prompted to log into MIMcloud if this is your first time using MIMcloud. Enter your FH email address and the password you indicated for MIMcloud. Click the checkbox to link the current MIMpacs user with this MIMcloud account.
g. Select the Froedtert Health Inbox patient list and search for the patient name. The list of patients uploaded to MIMcloud will appear on the screen just like when you search the MIM Clinic Database.
h. Select the patient on the left side of the screen. Then click on the "Send To" tab on the right side of the screen and select the green MIM Clinic Database location.
i. Once the patient data has been copied to the MIM Clinic Database you can use it like normal.

23. How to send patient data from FH to requesting outside hospitals using MIMcloud:
Concept: CT images, structures, plans, and dose files for patients treated at FH can be easily transferred to an outside hospital through MIMcloud. You will need the email address of a dosimetrist or physicist at the outside hospital who will be able to download the RT objects from MIMcloud. The uploaded patient data will be available on MIMcloud for 3 days. After that it will be auto-deleted.
a. Within the MIM application (MIM, not MIMcloud), select the CT images, structures, plan, and dose files from the treatment planning system and then click the gray MIMcloud location on the Send To tab.
b. If prompted, log in to MIMcloud using the same email and password you used in step 21a above.
c. In the Destination drop down box, select "Froedtert Health Outbox". Do not select the "Share with contacts or groups" checkbox. Click the Finish button to continue. The DICOM objects will then upload to MIMcloud.
d. Log in to the MIMcloud website (http://www.mimcloud.com) using your FH email. If you do not remember your password follow the link at the bottom of the screen.
e. On the left side of the screen, click "Groups".
f. Click the "View Studies" button under the Froedtert Health Outbox group.
g. Select the checkbox for the patient you want to transfer. Confirm that the CT, structures, plan, and dose checkboxes are selected.

h. Click the "Share" button on the lower portion of the screen. Enter the email address of the physicist or dosimetrist at the outside hospital and click the Submit button.
i. Click Create Copy button.
j. Click the Close button.

Appendix 1

Table 1: Site-Specific Setup Workflows:

Site	Workflow	Notes
Multiple	FH Setup General	
Brain	FH Setup Brain	
	FH Setup Gamma – Acoustic Neuroma	
	FH Setup Gamma – AVM	
	FH Setup Gamma – Mets	
	FH Setup Gamma – Trigeminal	
	FH Setup Gamma – Pre-Plan	
Head Neck	FH Setup HeadNeck CTSim	
	FH Setup HeadNeck PETCT	Use if planning CT is PETCT
Chest	FH Setup General Chest	
	FH Setup Lung	
	FH Setup Lung + 4D-MRI	
	FH Setup Esophagus	
	FH Setup Esophagus + 4D-MRI	
Breast	FH Extract 90 sec DCE Phase Pre-Op Breast	Run for pre-op clinical trial
	FH Setup Prone Breast	
	FH Setup Supine Breast	
Abdomen	FH Setup General Abdomen	
	FH Setup Liver HCC, Mets	
	FH Setup Liver – Bile Duct	
	FH Setup Liver – Bile Duct + 4D-MRI	
	FH Setup Pancreas	
	FH Setup Pancreas + 4D-MRI	
Pelvis	FH Setup Cervix	
	FH Setup Prostate	
	FH Setup Rectum, Anal Canal	
Sarcoma	FH Setup Sarcoma	
Spine	FH Setup Spine	

Appendix 2

Table 2: Site-Specific Post-Delineation Workflows

Site	Workflow	Notes
Breast	FH Generate PTV Lumpectomy	
Lung SBRT	FH Post Lung SBRT Contours	
Prostate	FH Post 2D Contour Expansion	
Pelvis	FH Post Pelvis Contours	