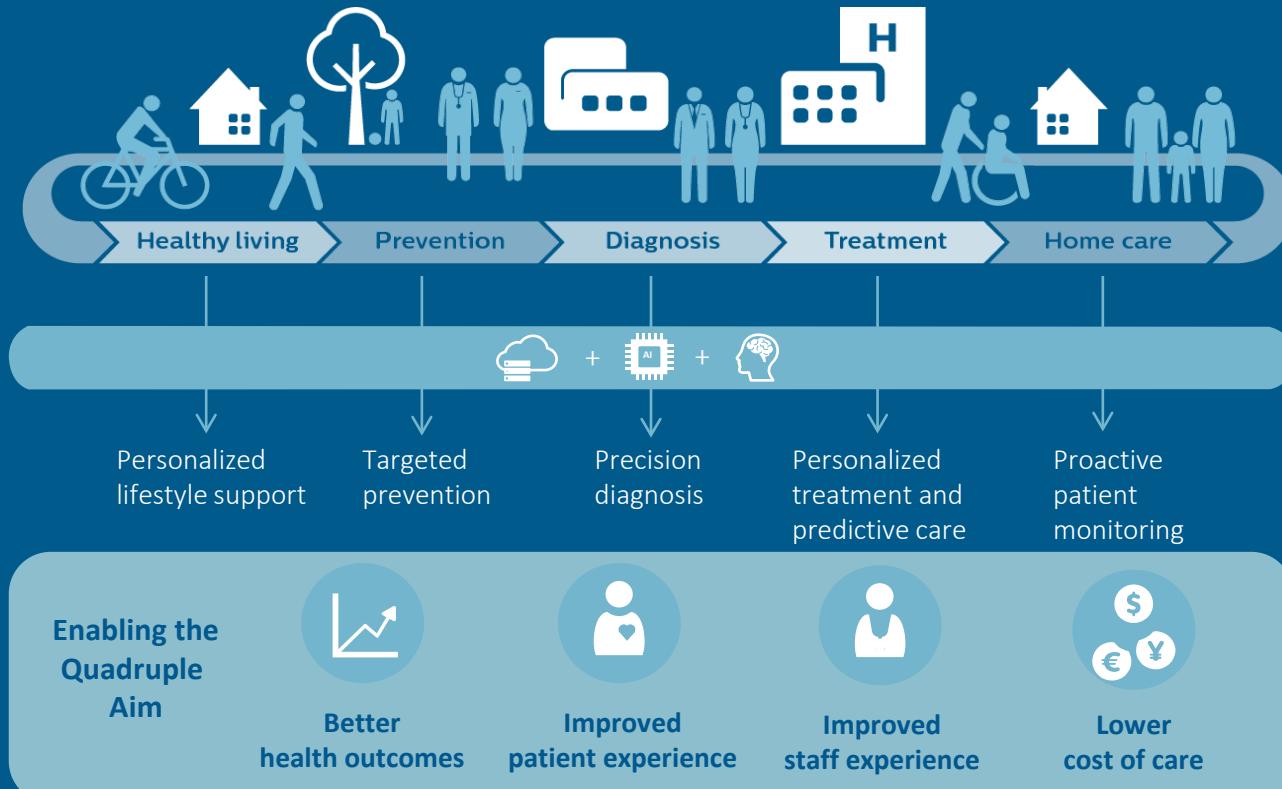


# 5G in Healthcare IT

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# Healthcare Informatics is the backbone of what we do



Built-in Security a core tenant across the continuum

# Výzvy ve zdravotnictví

1



Omezené kapacity zdravotnického personálu a přetížení stávajícího. Vliv na pacientskou spokojenost

2



Množství izolovaných systémů v nemocnici bez vzájemné komunikace a možnosti získat komplexní informace.

3



Potřeba zobrazení pacientských dat v reálném čase s minimálními náklady na infrastrukturu.

4



Strmý růst objemů dat ve zdravotnictví - nové technologie, počty přístrojů, velikosti dat, a komplexnosti dat pro jednotlivá vyšetření.

5



Dostupnost dat při zachování pokročilých bezpečnostních nástrojů a v souladu v dnešním vysoce rizikovém prostředí

# Možnosti využítí 5G ve zdravotnictví

- Vysoká přenosová rychlosť
  - Nízká latence
  - Vysoká prostupnosť signálu
  - Nižší náklady na infrastrukturu
- Přenos velkých datových objemů
  - Plynulá práce s daty v reálném čase
  - Stabilní pokrytí v celé nemocnici
  - Ekonomické oproti kabelu/WiFi

## Příklady použití:

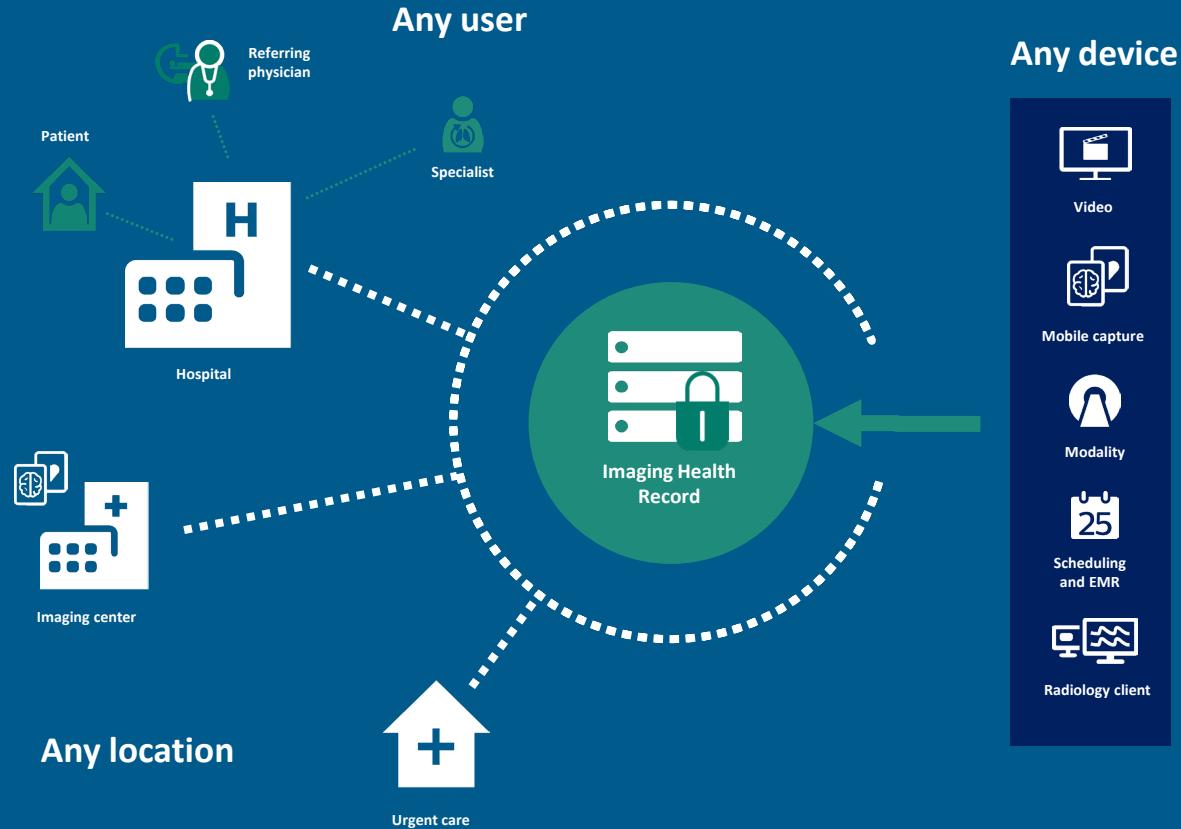
Mobilita lékařů s přístupem k pacientským datům kdykoliv a odkudkoliv	Poskytnutí diagnostických a klinických nástrojů	Zefektivnění práce zdravotního personálu	Centralizace dat napříč celou nemocnicí	Snížení nákladů na infrastrukturu a SW	Cybersecurity
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# Řešení pro celou nemocnici

# Philips offers a **unified platform**

The **Unified Core** helps us to use a single interface to store multiple objects in different file formats to manage the entire patients clinical pathways



# Modular capabilities that **enable actionable insights** while serving **end-to-end workflows** across departments

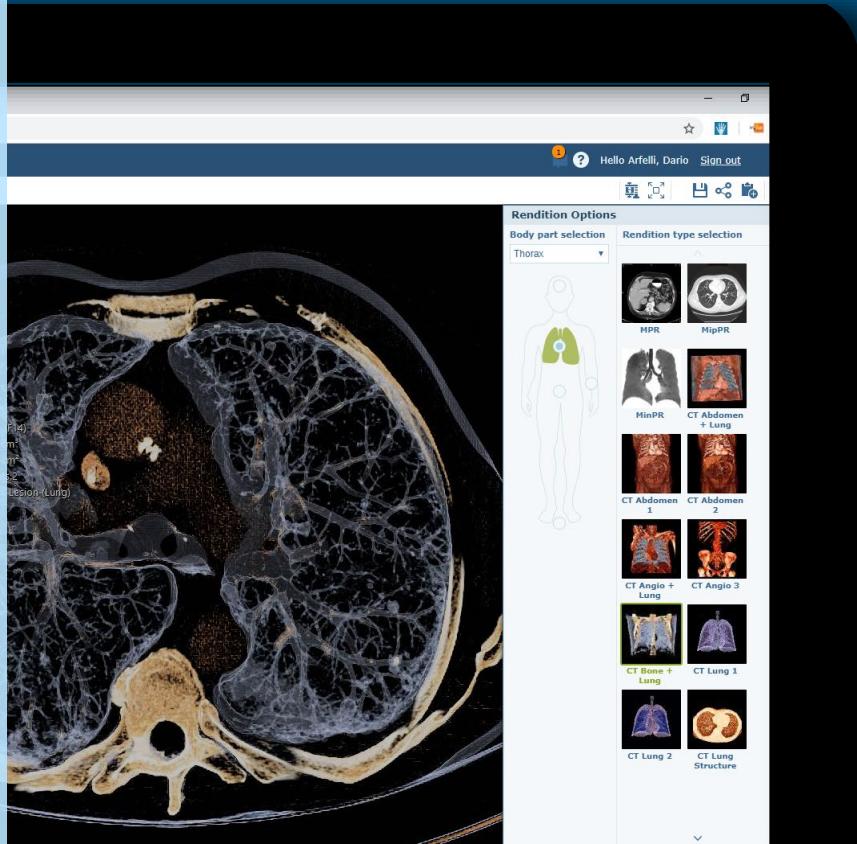


A **single platform**, with applications designed to serve **multi-ology, multi-departmental solutions**  
with seamless data flow and user experience

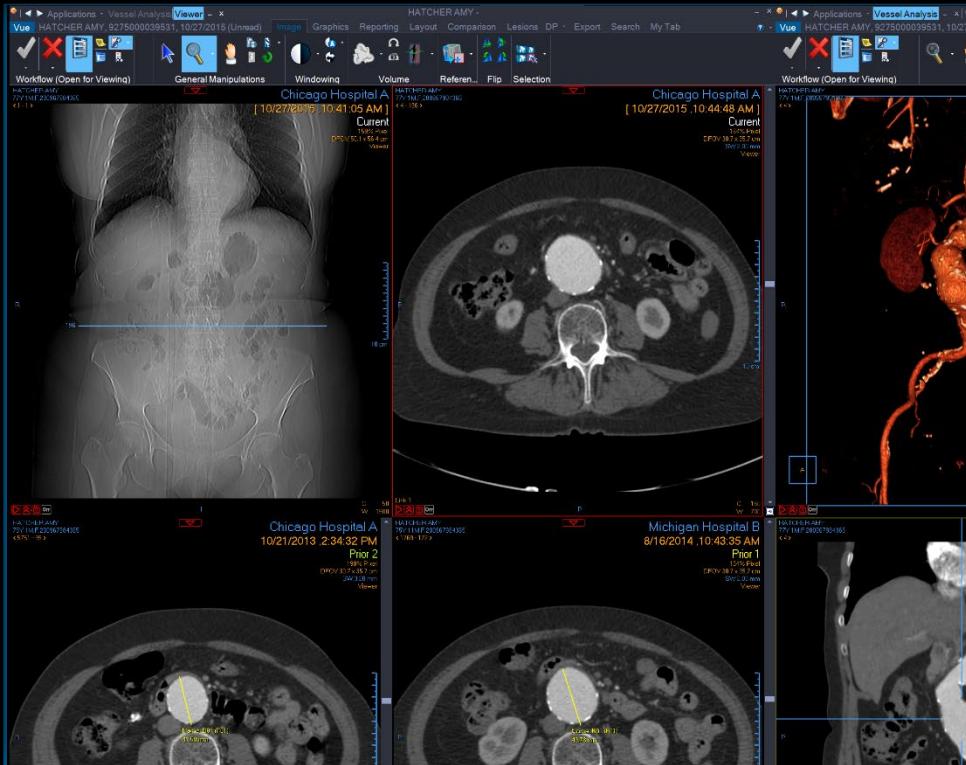
# Philips Enterprise Viewer unifies imaging across clinical service lines.

- No local installation or download required
- No dedicated training required with a single, intuitive user interface
- Approved for clinical reading, on mobile devices included
- Interactive reporting hyperlinks
- Universal viewer that is vendor agnostic. An XDS consumer that can display DICOM or non-DICOM data side by side.
- New communication capabilities, such as chat and screen sharing between clinicians and radiologists

# Universal Viewer



# Diagnostic Workspace - Key Features



## Embedded functionalities

- MPR/MIP
- Volume rendering
- Tissue definition
- Calcium scoring
- Cardiac analysis
- Coronary analysis
- PET-CT
- Lesion Management
- CT/MR Perfusion and diffusion
- Cardiology Pack
- Virtual teaching Library
- Breast Imaging
- DBT Breast Tomosynthesis

## Improves the clarity of the report and shortens the time it takes to read it.

- Hyperlinks** to easily view bookmarked findings as part of the whole imaging study
- Tables** and **graphs** to clearly track progress of findings over time
- Hyperlinks to view compared prior studies in Vue Motion (enterprise viewer)
- Hyperlinks to send an email to the radiologist and improve the communication

Dr. Carman's report from the Mayo Clinic (USA)

CT scan of the chest WITH intravenous contrast. The report includes findings, comparison to previous scans, and an impression section.

**FINDINGS:**  
Lungs/tubercles: None.

Lungs and airways: There has been a slight increase in the apical scarring and ground-glass opacity measuring 1.5 cm (series 1, image 53).

There are several nodules some of which are ground-glass opacity. In the right upper lobe there is a 0.55 cm nodule which is mostly of ground-glass opacity and unchanged in size. There is also a second 3 mm nodule which is also unchanged in size. There is a small solid nodule abutting the trachea.

On the left side there is a nodule abutting to the pleura that is unchanged in size. It appears to be subpleural consolidation. 1.9 x 2.1 cm as compared with 1.8 x 2.0 cm. There is additional opacity in the lingula and a small left perihilar nodule.

Heart and mediastinum: The thyroid gland, mediastinal, hilar or axillary lymph nodes are within normal limits. No pleural effusion which was not present previously.

Soft tissues: Normal.

Bones: There are degenerative changes in the sacroiliac joints. No new abnormalities within the visualized kidneys. The adrenal glands are normal.

**IMPRESSION:**  
Status post left upper lobectomy for squamous cell carcinoma.

Multiple pulmonary nodules some of which are ground-glass with little significant change compared with May 2012. The lingula increased in size. There is also a new finding about a centimeter in diameter concerning for recurrent adenocarcinoma.

Small pericardial effusion and a small

**Chicago Medical Center**  
Department of Radiology

**PHILIPS**

Name: Davis, Dorothy  
Accession Number: 9275100123456  
Referring Physician: David Evans, MD

ID: 201201061940  
Report Date: 02/02/2016  
davide@practice.com

**PROCEDURE:** CT Chest.

**CLINICAL INDICATION:** Follow-up of a known left-sided squamous cell carcinoma of the lung post-surgery with suspected lung metastasis

**TECHNIQUE:** CT scan of the chest without contrast was performed on the GE volumetric 64-slice CT scanner. 3-D coronal reformatted images were obtained from the axial source images.

**COMPARISON:** CT 28/09/2017; CT 23/06/2017; CT 31/03/2017

**FINDINGS:** Status post left upper lobectomy. Several nodules are seen in the left lower lobe: in the upper posterior with a diameter of 1.4 cm (series 1, image 53), another upper anterior nodule requiring 0.8 cm (series 1, image 68) (larger than in the previous scan) and mid-posterior nodule measuring 1.2 cm (series 1, image 59) (not larger than in the previous scan). There is a very small nodule in the right upper lobe with no change compared with the previous study. Some emphysematic bullae are seen in the right lung. There is no acute infiltrate.

**IMPRESSION:**  
1. S/P left lobectomy.  
2. Several lung nodules in the LUL are detectable two of them are larger than in previous study.  
3. Small nodule in the RUL (no change).  
4. Several emphysematic bullae in the right lung (no change).

**Target Lesions (diameter - RECIST)**

Time Point	F02 (Lesion Lung)	F03 (Lesion Lung)	F01 (Lesion Lung)
Baseline	14	7	14
06/23/2016	13	7	14
09/28/2016	13	8	13
02/02/2017	12	9	14

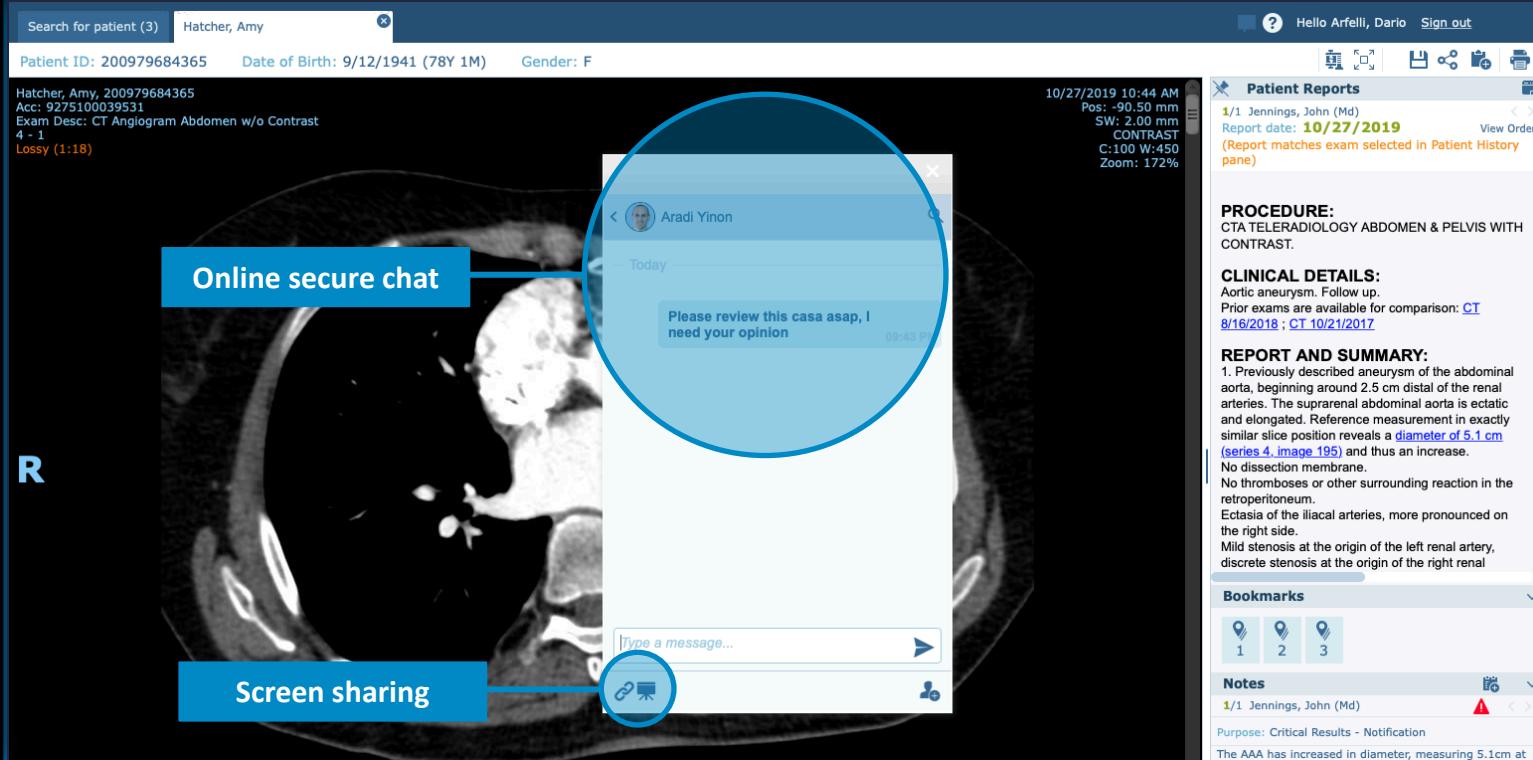
**Change overtime**

	Name	Target	Baseline	06/23/2016	09/28/2016	02/02/2017
F02	(Lesion Lung)	Target	Volume (mm³)	406 (-)	428 (+6%)	404 (0%)
F02	(Lesion Lung)	Target	Diameter - RECIST (mm)	14 (-)	13 (-2%)	13 (4%)
F02	(Lesion Lung)	Target	DT (Days)	1084	-25382	12 (-14%)
F03	(Lesion Lung)	Target	Volume (mm³)	109 (-)	165 (51%)	228 (+109%)
F03	(Lesion Lung)	Target	Diameter - RECIST (mm)	7 (-)	7 (+4%)	8 (+12%)
F03	(Lesion Lung)	Target	DT (Days)	140	170	206
F01	(Lesion Lung)	Target	Volume (mm³)	368 (-)	470 (+28%)	438 (+19%)
F01	(Lesion Lung)	Target	Diameter - RECIST (mm)	15 (-)	14 (+5%)	13 (-16%)
F01	(Lesion Lung)	Target	DT (Days)	239	237	1470
<b>Target Sum</b>			Diameter - RECIST (mm)	34 (-)	34 (+2%)	34 (+1%)
<b>Target Sum</b>			Volume (mm³)	34 (-)	34 (+2%)	34 (+2%)

Signed by  
John Jennings, MD

Today?

# Embedded collaboration tools



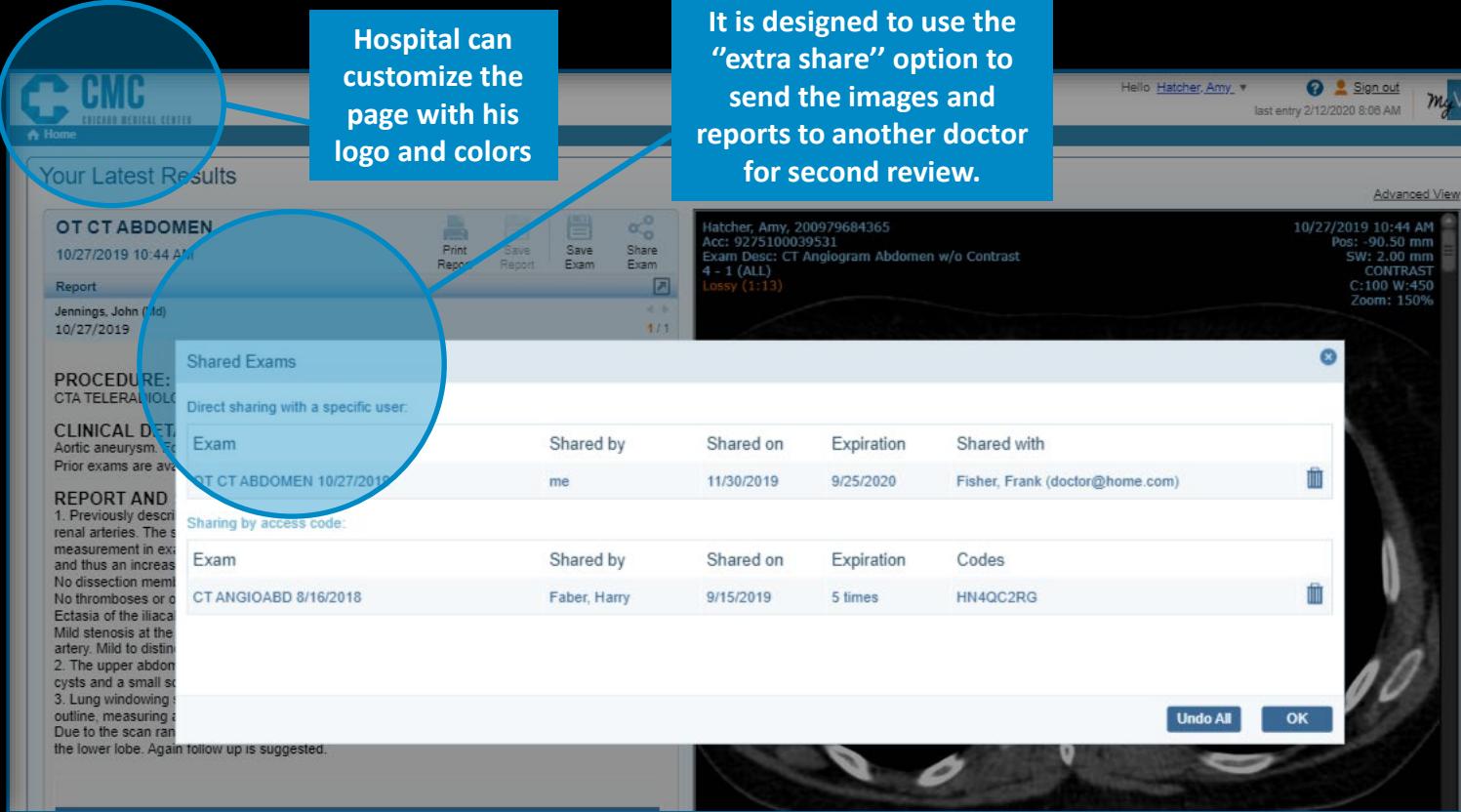
The screenshot displays a medical imaging software interface with several embedded collaboration tools:

- Online secure chat:** A floating window shows a message from "Aradi Yinon" asking for review of a case.
- Screen sharing:** A circular icon at the bottom center indicates screen sharing is active.
- Patient Reports:** A sidebar on the right shows a report for "Jennings, John (Md)" dated "10/27/2019".
- PROCEDURE:** CTA TELERADIOLOGY ABDOMEN & PELVIS WITH CONTRAST.
- CLINICAL DETAILS:** Aortic aneurysm. Follow up. Prior exams are available for comparison: [CT 8/16/2018](#); [CT 10/21/2017](#).
- REPORT AND SUMMARY:** Previously described aneurysm of the abdominal aorta, beginning around 2.5 cm distal of the renal arteries. The suprarenal abdominal aorta is ectatic and elongated. Reference measurement in exactly similar slice position reveals a [diameter of 5.1 cm \(series 4, image 195\)](#) and thus an increase. No dissection membrane. No thromboses or other surrounding reaction in the retroperitoneum. Ectasia of the iliacal arteries, more pronounced on the right side. Mild stenosis at the origin of the left renal artery, discrete stenosis at the origin of the right renal.
- Bookmarks:** Three bookmark icons are shown.
- Notes:** A note for "Jennings, John (Md)" is listed.
- Purpose:** Critical Results - Notification

# Easy online access to imaging results

Hospital can customize the page with his logo and colors

It is designed to use the “extra share” option to send the images and reports to another doctor for second review.



Exam	Shared by	Shared on	Expiration	Shared with
CT CT ABDOMEN 10/27/2019	me	11/30/2019	9/25/2020	Fisher, Frank (doctor@home.com)

Exam	Shared by	Shared on	Expiration	Codes
CT ANGIOABD 8/16/2018	Faber, Harry	9/15/2019	5 times	HN4QC2RG



Děkuji za Vaší pozornost

Prostor pro Vaše dotazy

