

Product Features- v1.4.5

Intended use:

Dose&Care® is a software application which integrates in the diagnostic imaging workflow. It collects and displays X-ray exposure data and provides a set of tools to document and analyze this information. Dose&Care® is intended for use by medical imaging and diagnostic health professionals, in particular by radiologists, imaging technologist, physicians, medical physicists and radiology directors.

The application can be connected to the facilities imaging informatics environment (including PACS, RIS, HIS, etc.), imaging devices and accessories (scanners, X-ray tables, interventional tables, etc.) using DICOM and HL7 communication standards.

Dose&Care® centralizes the data to provide a history of the X-ray dose for each patient and displays it graphically and numerically, in the form of effective dose, DLP, CTDI, CTDIvol, SSDE, DAP, Air Kerma, Glandular Dose, Organ Dose and Peak Skin dose.

Dose&Care® main functions:

- Collect X-ray data for each exam along with detailed information about the exam from most modalities, regardless of brand or model (such as machine set up and protocol details, ordering physician, patient information, exam protocol...).
- Build a history of the patient exposure, with cumulative doses by anatomic region and adverse reaction, if any.
- Identify patients at risk.
- Benchmark the of exam dose against diagnostic reference levels or self-established thresholds.
- Identify exams with excess exposure, alert responsible parties and store comments to explain or justify exposure.
- Analyze patient and exam history to identify the best practices and practices still needing improvement.
- Optimize protocols, analyze, compare, practices, machines, services...
- Export and share data in different formats (pdf, word, xls).
- Dashboard Analytics: a tool that enables building ad-hoc dashboards based on customer specific need and objectives.
- Support for Enterprise Master Patient Index (EMPI).

Languages:

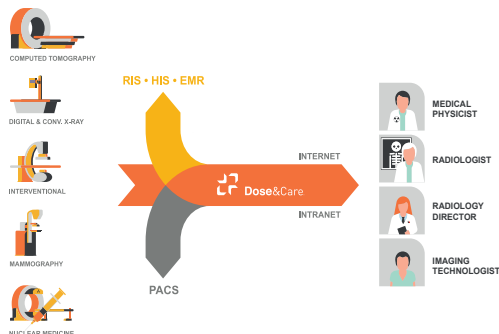
Dose&Care® is available in English, French, German, Italian, Spanish, Polish and Japanese.

Dose data retrieval and sending methods:

As long as the machine is able to provide dose information in digital format, Dose&Care® will automate the data retrieval, using the following means:

- DICOM-SR / RDSR (Radiation Dose Structured Report).
- DICOM Dose SC (Secondary Capture): Screen captures which contain dose values. Data are digitized thanks to a proprietary character recognition algorithm which guarantees 99% accuracy.
- DICOM MPPS (Modality Performed Procedure Step).
- DICOM Header: when the modality does not generate a dose report Dose&Care® uses the DICOM header to extract dose data.
- External dosimeter: Dose&Care can connect directly to an external dosimeter in order to retrieve dose values.
- Radiation dose manual entry application: a tool used for modalities which are not connected to the network.

Installation / Set up



Interfacing with hospital information informatics:

Two included modules are used to retrieve and manage information transferred to and from the HIS / RIS or PACS.

- **DICOM Worklist Module:** Retrieves list of daily exams. Allows radiologist to access patient dose history together with the dose accumulated per anatomical region prior to the exam.
- **HL7/RDSR Sender Module:** Utilizes different methods (MPPS, screen capture) to create dose reports in DICOM SR or HL7 message and send automatically to the PACS and/or HIS/RIS.

Additional optional modules.

- **HL7 IHE Integration Module:** Receives HL7 messages sent by the HIS/ RIS and ensures integrity of patient and exams data through reconciliation of data between the two applications.
- **PACS Module:** Queries PACS, automatically retrieves dose values from prior patient examinations and calculates accumulated dose per anatomical region.
- **NMIS Module:** Communicates with the Nuclear Medicine Information System for NM and hybrid modalities (SPECT/PET) to collect radioactive tracers used in the exam.

Additional integrations are available to allow interaction between Dose&Care® and third party applications:

- Web integration: allows contextual calls of Dose&Care® from third party applications, to show selected windows (e.g: dose report, patient history).
- REST API: a REST (representational state transfer) Web Service interface which provides third party application with access to an exam dose report or a patient dose history without showing the Dose&Care® interface.

Dose&Care® is also able to provide custom interfaces to allow stronger integration with other third party applications. Please inquire for more information.

End Users access:

Dose&Care® is a web application, which can be accessed from any standard browser, either through secured internet or intranet (LAN).

There is no limitation on the number of users. Each user has a login and password to access the data. The administration module allows customizing the data access rights and functionalities for each user.

Security

- The solution must be protected with a security software suite.
- It is highly recommended to set a backup system for the database.
- User's access is protected with integrated login/password authentication system and/or integration with LDAP/ Active Directory.
- Single sign-on authentication (SSO): A method that allows a user to access multiple applications by performing only 1 authentication.
- All user activity logged.
- Dose&Care® is installed on the hospital networks and benefits from the existing security.

Operating Requirements

Server Operating system	MS Windows server 2008 standard R2 or higher (also compatible with VMware and MS Hyper-V)
Database engine	MS SQL Server 2017+
Server CPU	8 core
Memory (RAM)	16 GB
Ethernet speed (LAN)	1 GB/s
Disk space	HDD C: 500GB + HDD D: 500GB
IIS (Internet Info Service)	7.0 or higher
Internet browser	Chrome, Firefox, Internet explorer 11+, Edge
Other	Remote access (VPN) to allow technical personnel to install and maintain the solution