CGM CLININET

Hospital Information System

Hospital Information System

Medical Information System

Synchronizing Healthcare

CGM CompuGroup Medical

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CGM CLININET - system characteristics for hospitals and affiliated clinics

CGM CLININET is a solution designed to support medical centers as well as general-, specialist- and teaching hospitals including their outpatient clinics. It supports the control and management of all relevant aspects of operations. CGM CLININET provides access to patient information via a standard web browser.

CGM CLININET enables the consistent collection of all medical and non-medical patient data, ranging from registration, through patient traffic in the hospital, clinics, operating rooms, wards, to diagnostic procedure rooms – and the creation of a comprehensive multimedia Electronic Patient Record. The electronic patient record is compiled by collecting all medical patient data. The system supports the integration of auxiliary software, modalities and devices. System users have access to clinical patient data, the course of treatment as well as diagnostic and therapeutic examination results. The modular design of CGM CLININET allows its configuration and development tailored to the specific needs of a medical facility.

1.1. Multimedia patient record

Software design based on the latest information gives you the opportunity to build unique solutions.

A multimedia patient record is made available through sharing all medical data from the patient's treatment history in one place. The integration of text results, multimedia input and information about medications as well as full integration of auxiliary modalities and software creates a patient-centred view for doctors, nurses and administration professionals. The content of the patient's medical records, including billing data and statistics, is available throughout the hospital. Users have access to medical data generated during the entire treatment process including during laboratory diagnostics, radiology, endoscopy, and ultrasound processes. A convenient to use web interface is used to enter and access all information.

1.2. Scalability

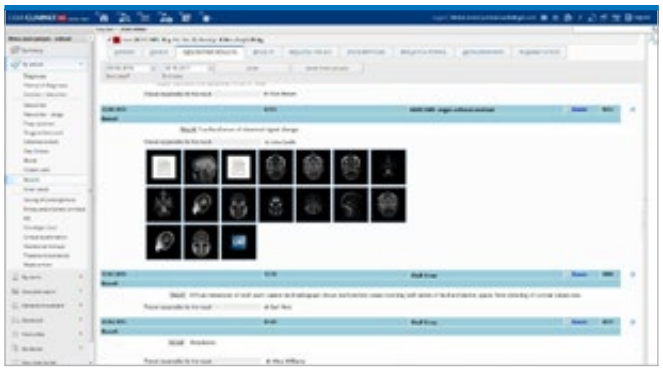
CGM CLININET's scalability enables its expansion depending on your needs without having to modify and run additional software. It allows you to run and deploy new modules and connect organizational units to another.

The use of advanced server technology and possible virtualization facilitates later expansion. Being open to software integration from other manufacturers gives the freedom to choose and integrate specialized modules in future.

CGM CLININET works successfully in both large and small institutions. The functional scope and the number of modules depends on customer expectations and the needs of each individual institution.

1.3. Work comfort

The uniqueness of CGM CLININET is based on the technology used and the involvement of medical personnel in the process of designing the application. This has resulted in a software tailored to the needs of users. Users - such as doctors, nurses, medical officers, technicians, system administrators or the management of the hospital - can define the configuration of screens, application flows and job preferences.



1.4. Integration with third-party systems

CGM CLININET allows you to integrate other solutions based on the internationally recognized HL7 standard that was created especially for the purpose of communication between medical systems. HL7 guarantees the correct data flow between systems, regardless of the manufacturer and technology used. In terms of communication with non-medical solutions, a team of experienced healthcare developers can implement dedicated and proven standard interfaces or develop custom solutions for specific projects.

CompuGroup Medical is proud of the accomplishment of hundreds of integrated hospital installations. We can exchange medical data between CGM CLININET and other manufacturers' programs such as Agfa, Alteris, Asseco, Info-publishing, Kamsoft, Marcel, Fuji, Siemens and others. We can also integrate CGM CLININET with the financial systems of other manufacturers such as SAP, Sun, Microsoft and others. Integration can be implemented both using Web Services as well directly at the database level.

1.5. Compliance with the law and the requirements of local markets

Constantly developing software enhancements is important so that solutions delivered are up to date with legal requirements. Adapting to the current requirements of the law requires to be close to the market our customers operate in. We hence work with local teams including developers, product managers as well as service and support professionals. Due to the complexity of a system used to process electronic medical records, e-Services, billing and management of payers we see this as a non-negotiable part of our strategy to serve our markets.

1.6. Security

CGM CLININET is built based on highest standards of data storage and communication technology. The used encryption technologies to protect against the interception of data transferred are compliant with medical standards. The system allows you to define access to medical data depending on the user rights. The user connects via secure protocols using HTTP and SSL. Additional security in multiple location settings is provided by the use of an encrypted VPN connection. Offered online services do not have direct access to the database of patients. CGM CLININET connects through an encrypted communication channel.

1.7. SaaS

CGM CLININET can be deployed in a Software-as-a-Service (SaaS) model. This model allows installation on leased servers. The solution reduces the costs associated with the purchase of the server infrastructure and significantly reduces the time of implementation of the system in the facility.

1.8. Why CGM CLININET?

CGM CLININET is one of the most advanced and mature products on the market. It is implemented in some of the largest healthcare units in Europe. The system works both in a small 50-bed hospital settings, as well as in those hospitals having more than 1,500 beds and over 1,000 concurrent users.

Benefits of implementing CGM CLININET are:

- Safety - a system proven in large and small hospitals,
- Electronic documentation of text and multimedia in one system,
- One system for HIS and EMR functionalities as well as the connection to patients via e-Services,
- Local development, implementation and support expertise.

1.9. Modern technologies

CGM CLININET is a Web application developed in three-tier architecture. It uses the latest technologies such as AJAX, JavaScript, Java, html5 or Angular. To keep medical records in electronic form and to perform administrative processes, a common web browser is used. As a result, workstations and tablets receive considerable independence from the operating system.

CGM CLININET works based on database technologies from leading manufacturers such as SAP Sybase or Oracle.

1.10. System architecture

CGM CLININET's division into modules allows you to tailor the system to the individual needs of a specific hospital or clinic. CGM CLININET is available on classic workstations, PCs, mobile devices and terminals. The use of modern technologies allows you to work independently of the operating system of the workstation or tablet.

CGM CLININET is an integrated system - all data introduced to the system is immediately available in other modules (both in their own CGM modules which are integrated at the database level, as well as modules integrated through medical DICOM and HL7 protocols or Web Services).

1.11. Functional areas

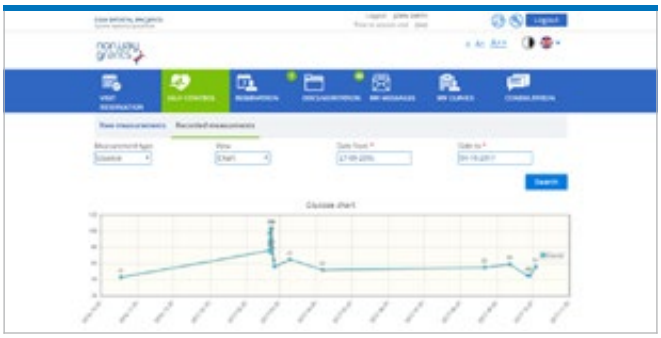
CGM CLININET is a comprehensive information system supporting the processes of treatment and management of medical institutions. The system consists of many specialized functional subsystems and modules:

- **HIS (Hospital Information System)** - the hospital system; CGM CLININET HIS comprehensively supports processes and medical facility management, and includes specialized subsystems for the various organizational units of the hospital.
- **EMR (Electronic Medical Record)** - electronic multimedia patient medical record system showing all info connected from within and outside CGM CLININET in one place.
- **AIS (Ambulatory Information System)** - a system for outpatient clinics connected to the hospital.
- **BI (Business Intelligence)** - analytical system which converts data from one or multiple domain systems to make management decisions.
- **CAT (Computer-Assisted Therapy)** - assisted therapy solutions, specialized modules supporting treatment. Cytosta-biotics, radiation therapy, parenteral nutrition.
- **CIS (Clinical Information System)** - modules, and other decision support software for monitoring the patient's condition and the collection of medical information.
- **ERP (Enterprise Resource Planning)** - enterprise management system - CGM CLININET ERP modules allow to help manage the medical centre; the solution can also operate as a standalone system integrated with ERP solutions from other manufacturers.
- **LIS (Laboratory Information System)** - a system supporting the work of the diagnostic laboratories, which in particular has built-in direct integration with devices of laboratory diagnostics.
- **PACS (Picture Archiving and Communications System)** - a system for processing and archiving DICOM images, and the communication between diagnostic imaging devices and diagnostic stations. CGM CLININET has a built-PACS collecting DICOM data and video, so all the electronic medical records are in one integrated medical system. The PACS module can also operate as a standalone system.
- **RIS (Radiology Information System)** - Radiological Information System; CGM CLININET has built-in modules that support radiological departments which can also work as a standalone system Radiological CGM NETRAAD RIS.

CGM CLININET can be supplemented by a fully integrated patient e-portal with the following functionalities:

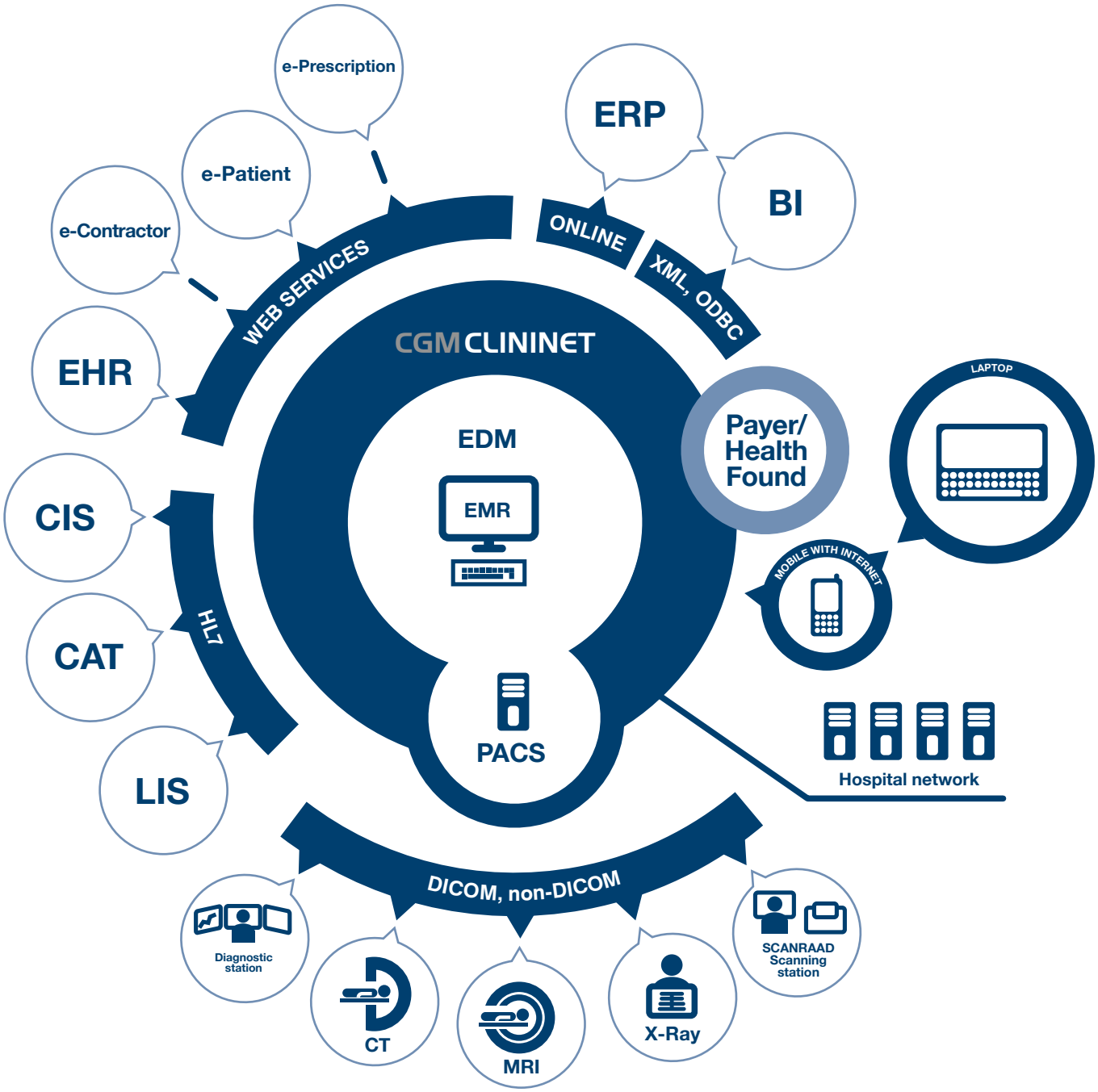
- e-registration
- e-appointments
- e-Documentation
- Hospital and Clinic Search
- Online payments
- Secure e-communication
- e-consulting tool

All patient results visible in the portal are fully integrated with the patient's medical record in CGM CLININET. This includes multimedia, graphics and indexes. The CGM CLININET e-portal allows your organization to offer a fully integrated e-health solution which involves your patients in their care.



CGM CLININET can also be integrated with payer systems including:

- National Payment Schemes
- Insurance Schemes
- TPA Payment Gateways etc.



A comprehensive medical information system should be modular. Therefore, it is advisable to have built-in interfaces to connect the other solutions in the future.

CGM CLININET offers the opportunity to integrate and exchange information via:

- DICOM (*Digital Imaging and Communications in Medicine*) - standard for the electronic exchange of graphical data between medical devices,
- HL7 (Health Level Seven) - standard for the electronic exchange of information between medical systems,
- ODBC (Open DataBase Connectivity) - a mechanism to connect to database management systems, regardless of programming language and operating system,
- Web Services - the mechanism of communication between two systems via the telecommunications network (e.g. Internet) using Internet technologies, independent of the programming language and operating system,
- XML. (Extensible Markup Language) - a universal formal language designed to represent different data to transmit information between systems.

02

CGM CLININET - Your Medical Information System

CGM CLININET is a medical information system for hospitals and clinics. It is one of the most advanced and mature products on the market. The system comprehensively supports the work of medical practitioners and administrative professionals in your organization.

2.1. Basic functions - ambulatory

Registration

The "Registration" module allows you to manage patient registrations and schedules in the clinic. From here patients will automatically be sent to the relevant queues. When the system is connected to medical devices, worklists will be automatically available for performing units.

As part of the integrated CGM CLININET system, studies commissioned inside the facility do not require additional registration, as they are automatically sent to the appropriate working lists. After connection to the system, the medical devices the worklist are automatically displayed on technicians consoles.

Selected features:

- keeping a register of patients,
- appointment management,
- registration of patient data required for settlements with patients, insurances or other payers,
- automatic checking patient entitlements (policies),
- connection to service and product price lists,
- collection management,
- POS management.

Clinic

The "Clinic" module supports the process of providing medical services to the patient, determining the next visit and issuing medication or prescriptions. The connectivity to the CPOE module allows direct ordering and automatic receipt of results. The module also allows you to document the administration drugs and to record medical procedures performed. The module processes the data collected for statistical purposes and facilitates medical records. It also contains many useful features that facilitate daily work, such as a list of patients today, the results of patients, etc.

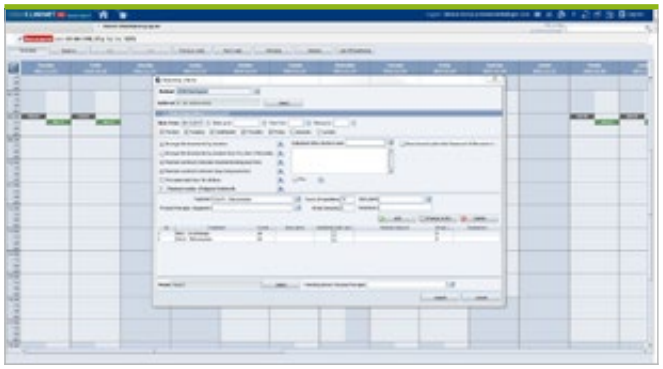
Thanks to the user friendly interface, the doctor always has the current list of visits for the day. The module facilitates the handling of the patient, as well as supports and organizes keeping medical records.

Selected features:

- prescriptions, referrals, certificates and other medical documents,
- keeping medical records,
- collection of data for settlement with payers,
- planning of follow up visits and treatments,
- submission of orders to the laboratory, imaging department or co-treating physicians.
- automatic reception and presentation of medical results in the patient's medical record.

Rehabilitation

The "Rehabilitation" module is a special module supporting the work of rehab institutions or departments. This module enables the comprehensive support of patient rehabilitation processes. In particular, it allows registering treatments including the automatic scheduling of visits chains taking into account the availability of equipment and other resources.



Selected features:

- automatically search for available dates for treatments by referrals,
- treatment plan may be modified using the "drag and drop" functionality in the graphical schedule,
- print a list of treatments and barcodes to facilitate subsequent handling of the patient,
- automate the process of encoding the entire treatment process for payer submission.

2.2. Basic functions - hospital

Admissions

The "Admissions" module is used for the patient admission process to the hospital. From here, the triage process, initial coding of procedures, ordering of tests, prescriptions and other functions supporting the work of the doctor and nurse can be performed. The module also allows you to manage patient data, such as administrative data, demographic data, data of the physician team for the episode, referral information, and many other aspects important to the admission process of the patient to the hospital. It is also possible to manage A&E processes in the module, including processes such as assigning care providers, documenting medical records, diagnoses (e.g. in ICD10) as well as the treatment administered.

Selected features:

- verification of insurance status of the patient (possibility of integration with insurance systems), admission of the patient to the hospital,
- built-in ordering, monitoring and access to treatment results,
- graphical tool to analysis trends of test results,
- access to results in the form of (radiological) images and descriptions,
- registration of consumption of medical materials and medicines,
- the possibility of issuing different types of medical documents such as prescriptions, referrals, certificates etc.

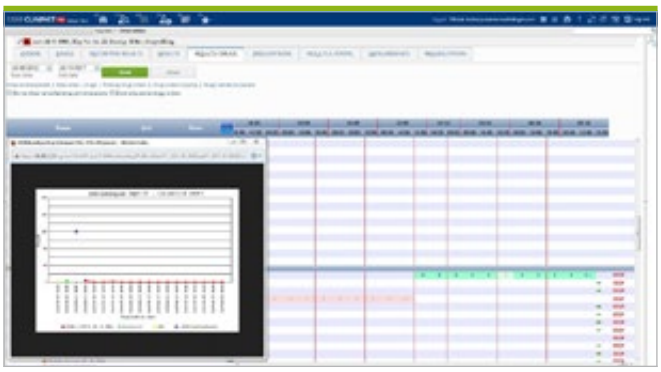
Ward

The "Ward" module is the basic CGM CLININET module designed for persons involved in the treatment of a patient in the ward. The module provides support functions to physicians and nurses, such as: documentation of diagnoses and treatments, keeping medical and statistical documentation, coding of performed procedures, administration of treatments and medicines, issuing prescriptions, recording infections and documenting patient care.

The module also collects, processes and displays data for statistical purposes. The hospital can benefit from statistics such as diagnosis (ICD10) statistics with remark, medication statistics, procedures performed, dietary information, transfer statistics, etc. A simple to use report interface supports the hospital to mine data in an efficient and fast manner.

Selected features:

- admission of the patient to the hospital,
- built-in ordering, monitoring and access to results,
- graphical trend analysis of test results,
- access to results in the form of radiological images and descriptions, access to lab results, access to information from all other integrated modalities and software (e.g. ECG, Vital Monitors, etc.),
- the possibility of issuing different types of medical documents such as prescriptions, referrals, certificates etc.,
- ordering of drugs other medical materials, recording of their consumption,
- nursing care plans,
- recording of medical observations,
- electronic filing of descriptive and formative documentation.



Pharmacy

The "Pharmacy" module is an integral module in CGM CLININET which supports the staff of the hospital pharmacy. It can operate independently of CGM CLININET. The module is fully interrelated with the ERP functionalities in CGM CLININET. By maintaining data consistency with the pharmacy sub-stores (e.g. in ward, clinics, laboratories), the module supports the management of pharmaceuticals throughout the medical facility.

Selected features:

- inventory management of drugs and medical supplies,
- access to inventory,
- recording of revenues and expenditures, profit and loss,
- monitoring of the performance of contracts and tenders,
- order and receipt from suppliers,
- receipt management, limits and blocks.

2.3. Other functionalities for hospitals and affiliated clinics

Billing and Collection

The module supports the billing and settlements with payers for inpatient episodes and outpatient visits in a quick and easy way. CGM CLININET is fully ready for integration with government payment schemes, insurances and Third-Party Administration entities. It allows you to track policies and contracts, import contract details and generate billing messages.

Selected features:

- automatic synchronization of patient record, medical records and billing messages,
- reporting to support monitoring of proper execution of the contract,
- issuing electronic invoices for payers,
- exporting statistical data in open format.

The optimization of settlements with payers can be an integral part of your processes. CGM CLININET gives you full support in this process. It helps reduce the cost of running a medical facility by eliminating irregularities in the process of billing and payment collection.

Scheduling and Time Management

CGM CLININET features an integrated, comprehensive time management module for the hospital, medical clinics, laboratories, other hospital department as well as the operating theatres. System users can easily create electronic diaries for individual departments or resources; determine the availability of medical diagnostic equipment and the hospital occupancy.

The clear user interface supports users to work fast and effectively with limited training needed. Users can drag and drop information. Resource availability, equipment services, and special events such as leave periods or holidays are easy to configure.

The module fully integrates with auxiliary systems the hospital may use for HR management.

Computerized Physician Order Entry (CPOE)

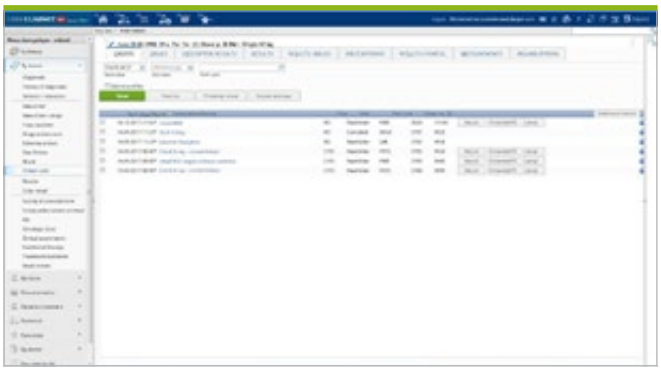
CGM CLININET features a state of the art CPOE module which can be fully integrated with drug interaction databases or other solutions to manage medical pathways. The module supports electronic entry, change and cancellation of orders. Through the same module, entering, changing and viewing of results is supported. Practitioners or administrative staff can be informed about order changes or ready results by sms, email or system notification.

Entered orders can be cancelled or modified by authorized users. The order status is updated automatically if the hospital fully utilizes the functionalities and integration available in CGM CLININET. The order status can also be set manually.

Orders flow in well organised work lists (e.g. laboratory, pathology, operating theatres, dialysis, patient transport, imaging) or groups of users (e.g. medical consultations, nursing orders).

The results made available automatically from external systems are immediately available in CGM CLININET. Eligible persons may enter the results of tests manually.

A unique feature of the extended "Order Module" in CGM CLININET is that patient-unrelated orders can be entered. Furthermore, the functionality of freely creating and configuring order forms is an important feature of the module.

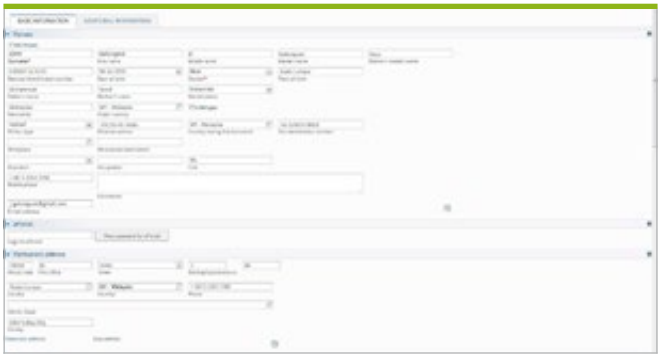


Electronic Forms

Electronic medical record forms, order forms and medical service forms can be fully customized thanks to the built-in structured generator system for medical forms. The generator takes into account the division for particular numeric attributes, lists, descriptions, standards, check boxes or even dictionaries built into the system.

For advanced users, such as the IT Department, the module offers a number of additional capabilities without the need to outsource programming work to the system provider. In particular, CGM CLININET has the option to design more complex forms of panels, tabs, broadcast lists and algorithms to verify the data entered or the ability to create rules authorizing electronic forms.

The flexibility in generating forms is very helpful in introducing electronic medical records to practitioners. Paper-based processes can be replicated electronically to soften the change process which is often painful for medical staff and the management.



Medical Statistics

The "Medical Statistics" module supports the creation of lists and reports (as required by applicable laws and MOH/DOH regulations) to external institutions. The hospital can use an easy reporting engine to create any kind of report as long as the data is captured in CGM CLININET. This greatly reduces dependence from the system provider.

The "Medical Statistics" module is also equipped to satisfy all necessary internal reporting.

You can for example:

- summarize the number of patients currently residing in a unit, as well as throughout the hospital or clinic,
- print ledgers for a specified period or for selected identification numbers,
- verify tthe completeness of the data collected,
- transmit statistical data, summaries and analyses automatically.

Print Servers

A solution that works independent of the operating system such as Linux, Windows, Mac, needs to work properly with printers. Built-in print servers facilitate the daily work of users and professionals, eliminating the need to install the printer on each workstation or terminal.

The list of printers registered in the system for a given position is automatically available in the system in the form of a CGM CLININET selection list. As a result, it is possible to work on any operating system equipped with only a Web browser.

The hospital's Patient Identification Number as well as QR or Barcodes can be printed on patient wristbands for patient identification even if the workstation is not installed in the printer driver bands. The print server also supports the ability to define automatic printing of orders.

Contracts and Agreements

The "Contract" module in CGM CLININET supports the management of contracts with insurers and other companies. The module supports the creation of flexible medical packages, contracts and price lists.

Selected features:

- ccontract management,
- subscriptions and company plans,
- assigning of prices to groups with same benefits without having to create a separate plan for each,
- management of price lists and schedules of doctors depending on the circumstances (e.g. weekend price lists and schedules)
- automatic calculation of cumulative payments for companies and insurances, taking settlement periods and many other criteria into consideration.

Administration

The "Administration" module is a module designed for system administrators. The module allows you to manage users, user access permissions, organizational structures, a list of available combinations, prints, system parameters, e-Services for patients, as well as the design and publishing of forms.

Selected features:

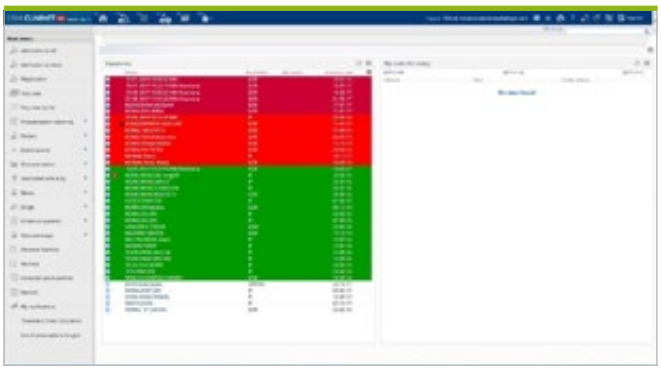
- management profiles and user permissions,
- management organizational structure management for hospital, clinics, laboratories, operating theatres, etc.,
- management of forms, medical record templates, descriptive data templates, printouts and reports,
- management of dictionaries,
- ability to combine duplicate records.

Emergency Admission

The module supports the registration and maintenance of a patient's stay in the emergency department. It includes features of registration, medical triage and electronic documentation of diagnosis, treatment and stabilization of vital functions.

Selected features:

- verification of payer status,
- commissioning, monitoring and access to treatment results,
- access to treatment results in the form of radiological images and descriptions.



2.4. Specialist modules

Drug Ordering and Administration - allows ordering and supervision of administered drugs.

Laboratory - supports the work of medical laboratories, integrates the analysers, automatically transfers the results to the integrated medical system.

OTMS - organize the work of the operating theatre. The module allows you to create documentation of procedures, anesthesia cards and to plan treatment schedules using graphical elements.

- features a graphic tool for planning and monitoring surgeries in real time, broken down into individual procedure rooms, taking into account the stages of preparing rooms for procedures,
- enables the management of room availability schedules,
- enables keeping the necessary surgical documentation and automatically generates the documentation of surgeries based on collected information on procedures performed, materials used, team members, etc.
- enables keeping anesthesia records,
- enables analysis and generating reports on the operating theater procedures,
- provides access to all patient examination results, including imaging,
- features a built-in medical orders module and automatically communicates with other system modules in terms of new orders and results,
- interoperable with other integrated CGM CLININET medical system modules.

Dialysis - Supports the operation of facilities featuring dialysis stations. This module enables the management of dialysis patient traffic and keeping dialysis records. Includes the necessary parameters in the documentation, such as: anticoagulants, weight, type and number of treatment, injection, substitution fluid, body temperature, etc.

- supports dialysis staff when scheduling appointments, based on the available stations,
- enables entering order data and examination results in the form of structured forms consisting of different boxes, such as: text boxes, numeric boxes, check boxes, drop-down list boxes, date boxes and the box which enables attaching any file associated with the examination,
- enables printing a dialysis chart.

Transport Services - manages orders for medical transport.

- enables recording orders for medical transportation of patients,
- linked to the dialysis module from which it can retrieve orders,
- enables the management a list of medical transportation orders,
- features built-in forms to determine a patient's level of disability, the position in which the patient is to be transported, addresses, personnel involved in the transportation procedure,
- in conjunction with other modules of the integrated CGM CLININET medical system it enables retrieving orders for transportation automatically and reporting their completion.

Nutrition - controls the work of staff in the nutrition department and the process of providing meals by the hospital kitchen.

- diet orders for individual patients,
- generation of summaries for orders daily and weekly diets,
- the ability to define in the diet dictionary system.

Hospital Reception - a module designed for people engaged in non-medical patient handling and settlement of bills.

- enables hospitalization planning,
- enables putting up an offer,
- enables saving an order and issuing an advance payment invoice,
- enables settling accounts for a hospital stay,
- features a built-in specification report for invoicing and synchronization of approved invoices,
- fully integrated with medical modules.

Blood Bank - manages the records of admissions and releases of blood and blood orders. Enables to handle documentation related to blood management and blood products (order, delivery, handing over, return and destruction).

Electronic Archive of Medical Records - keeps track of the current location of the archived documents. It allows you to view the history of changes.

2.5. Other functionalities

HR Module - supports the management of the staff schedules in the hospital.

Clinical trials - supports keeping patients involved in clinical trials and settlements with companies conducting these studies.

CGM CLININET significantly improved the work of our hospital. Tracking patient health, maintaining medical records, setting work schedules and managing operational processes has become incomparably more comfortable.

Doctor

03

CGM CLININET – Embedded Solutions for Radiology, Ultrasound and Endoscopy

CGM NETRAAD and CGM ENDORAAD are integrated systems designed to fully computerize diagnostic imaging departments in the hospital. As components of the system, CGM NETRAAD and CGM ENDORAAD allow CGM CLININET to manage information, reports and diagnostic images, both in DICOM or non-DICOM, in digital form.

3.1. Basic functions - radiology, ultrasound, endoscopy

The CGM NETRAAD and CGM ENDORAAD modules are built into CGM CLININET and enable a comprehensive management of the diagnostic (imaging) departments such as radiology, cardiology, endoscopy and ultrasound. They provide smooth and secure transmission of image data and reports within a hospital, clinic or medical network based on web technology.

With the full integration, the hospital can settle contracts with payers through a single, common billing module. An additional benefit is the unified management of permissions, users, dictionaries and forms using a common administrative module with the hospital information system.

Electronic images and video from the ultrasound, endoscopic, radiological, colonoscopy or gastroscopy devices are available as part of a multimedia patient record in CGM CLININET.

Selected features:

- fully built-in RIS and PACS functionalities,
- a common module for billing,
- registration of patients for diagnostic tests,
- schedules and worklists,
- introduction of descriptive results via structured forms,
- the creation of waiting lists,
- embedded image view in browser,
- archiving of data in DICOM format, and non-DICOM,

- media patient record common to a HIS, RIS, AIS,
- burning images and results to CD / DVD,
- smooth flow of data between the diagnostic laboratory and the doctor's office,
- graphical planning and worklists,
- sending of jobs to remote tele-radiology departments,
- invoices for studies directly with the medical system.

3.2. DIAGRAAD - radiology, ultrasound, ECG

CGM DIAGRAAD is a browser based solution to view medical images in DICOM format. It lets you view and manipulate images. It further provides a range of diagnostic tools for advanced medical measurements. DIAGRAAD does not require installation on the workstation, as it starts from the web browsers. Web-based architecture allows diagnostic image analysis from any workstation connected to the system. Additionally the browser-based solution features the possibility of a comprehensive diagnosis based on ECG results.

Selected browser functionality:

- display several series of images simultaneously,
- animation to play a series of images,
- importing images in DICOM format,
- measuring the distance, angle and the relative lengths,
- measuring the area of any shape,
- measuring the density and the standard deviation of the selected area,
- ECG waveform preview for angiographic images,
- MPR, volume rendering, 3D visualization, MIP MINIPA,
- DICOM export image formats JPEG, PNG, BMP, GIF, TIF, DCM.

3.3. PACS - integration with devices and archiving

CGM CLININET supports a central PACS archive for medical images from various diagnostic laboratories. It archives and distributes a variety of imaging departments in a single database. As a result, all images are easily available and ready for the next stages of diagnosis. CGM CLININET PACS can work as a standalone application as well as in conjunction with the RIS and HIS. This greatly facilitates the circulation of medical information and allows you to create an electronic patient record. The system has a built-in PACS configurator to quickly configure the archive and the graphical interface showing the list of devices connected to the PACS server.

3.4 Archiving Rules

CGM CLININET PACS provides a feature to define rules for archiving. Rules can be for example: "Always send to the same location" or "Upload to different location depending on the type of test oor day, hour, ordering units". An additional advantage is the prefetching feature that automatically calls the patient's historical archive related to the current study.

Prefetching improves the radiologist's workflow, provides access for all imaging studies of the patient and greatly facilitates an accurate analysis and interpretation of the currently performed tests.

3.5. Automatic download of data

The module allows you to share worklists (patient data and orders) with devices equipped with the DICOM Modality Worklists. As a result, the order data is send directly to the device without the need of manual data entry by the operator.

3.6. Test results on CD / DVD

Burn images and results to CDs / DVDs. The solution guarantees the easy access to information for the patients as well and medical facilities to which the patient delivers the result.

CGM NETRAAD RIS improved our diagnostic department's workflows. After a few weeks of using the system we noticed greater productivity and we improved the quality of service to our patients.

Doctor

04

CGM CLININET e-Services

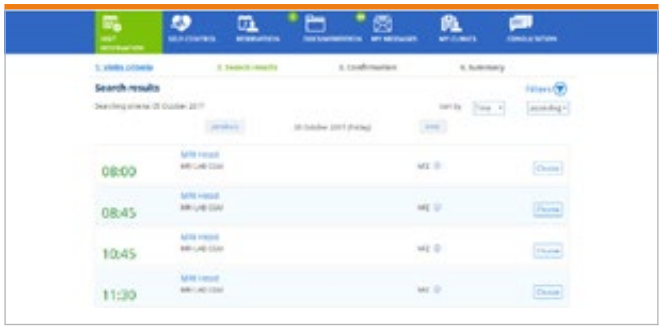
CGM CLININET can be complemented with a range of integrated e-Services for patients and cooperating institutions.

4.1. Patient Portal

The Patient Portal features an ecosystem of integrated e-Services to which the patient has access from anywhere via the Internet. The portal features the following services:

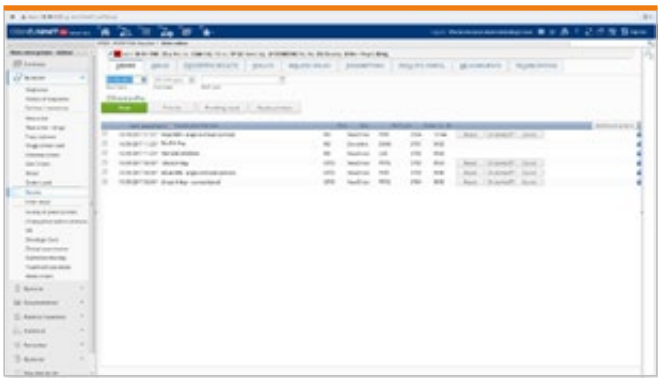
- E-Registration (including the possibility of booking appointments and access to information about queues/waiting times)
- E-Documentation (including the ability to share online patient medical records, test results, etc.)
- E-Notifications (including automatic notifications of upcoming visits and other medical events)
- E-Consultation with the patient (including the consultation via text or video according to a fixed schedule)

E-Services communicate with CGM CLININET via a secure connection and the modules are managed consistently by one administration module for the entire system.



4.2. Partner Portal

The Partner Portal allows partners to access certain system functions via the Internet. Available are scheduled review functions and visit lists of patients of a given referral partner.



4.3. Security of personal data on the Internet

Following modern trends and requirements in the field of protection of personal data, we have equipped our applications and software with adequate safeguards to guarantee security and confidentiality. Safety certificates, multi-level protection against data loss and permission testing for data access are just some of the technologies that are guarding data security within CGM CLININET. E-Services are secured by additional encryption during communications via VPN or HTTPS.

4.4. Tele-radiology - CGM CWT

Modern achievements of medicine combined with technological possibilities can break the barrier of time and place. Within CGM CLININET e-Services, we offer access to the Central Tele-Radiological Node which allows the consultants to review and enter results from the distance.

Tele-radiology is becoming an increasingly popular method of exchange of information between experts. This raises the level of medical services. CGM CWT has a high level of security, authorized and monitored access to the system, data encryption via SSL and VPN, a secure electronic signature and a PACS Archive.

CWT enables you to:

- provide research consultation 24/7/365,
- deliver fast,
- get access to specialized medical staff,
- offer a full range of services including MRI, CT, etc.,
- optimise costs,
- increase the quality of services.

4.5. The exchange of electronic medical records as part of e-Health

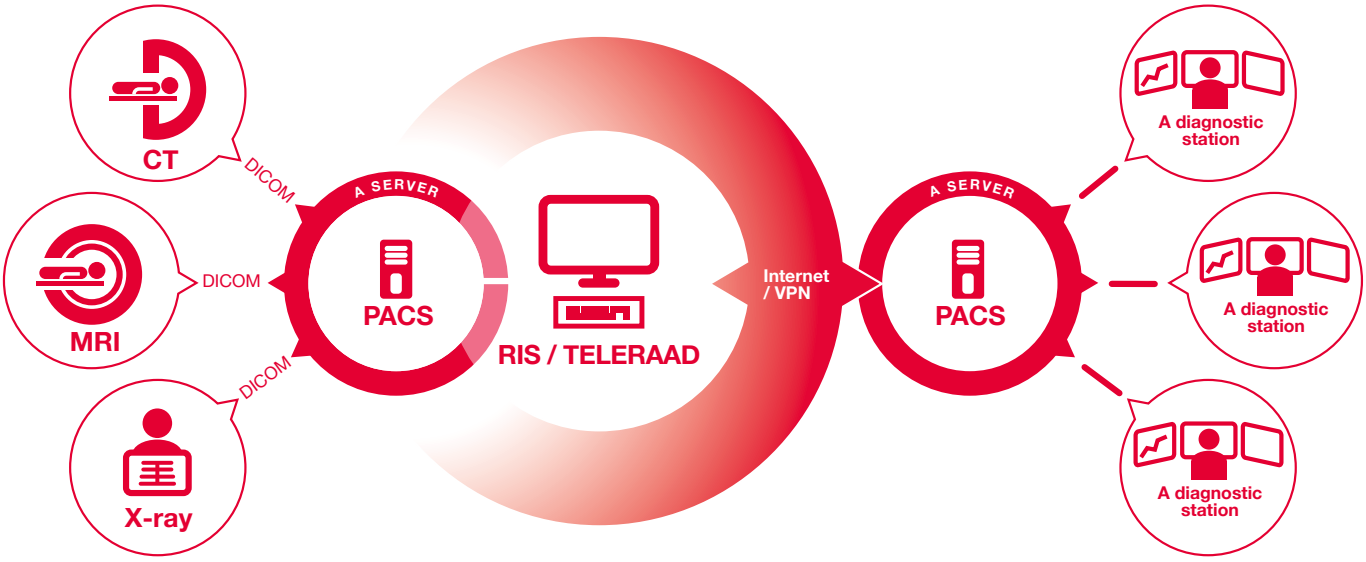
CGM CLININET is prepared to cooperate with regional and national platforms for the exchange of medical data. For the readiness of the modern medical systems to work with medical data exchange platforms of e-Health, it is crucial to ensure interoperability in the exchange of medical records using international standards like HL7 CDA, IHE PIX.

CGM CLININET supports the HL7 v.3 international standard for the electronic exchange of information in medical environments.

4.6. CGM CWT Network Diagram

CGM CWT (Tele-radiology Central Node) is a platform for tele-radiology consultations. It allows you to quickly upload and annotate imaging studies in renowned centres of consultation.

Transferring imaging data is done via the Internet through a secured VPN (Virtual Private Network). The result is sent in electronic form to the RIS, which appears in CGM CLININET automatically updated as part of the patient's medical record.



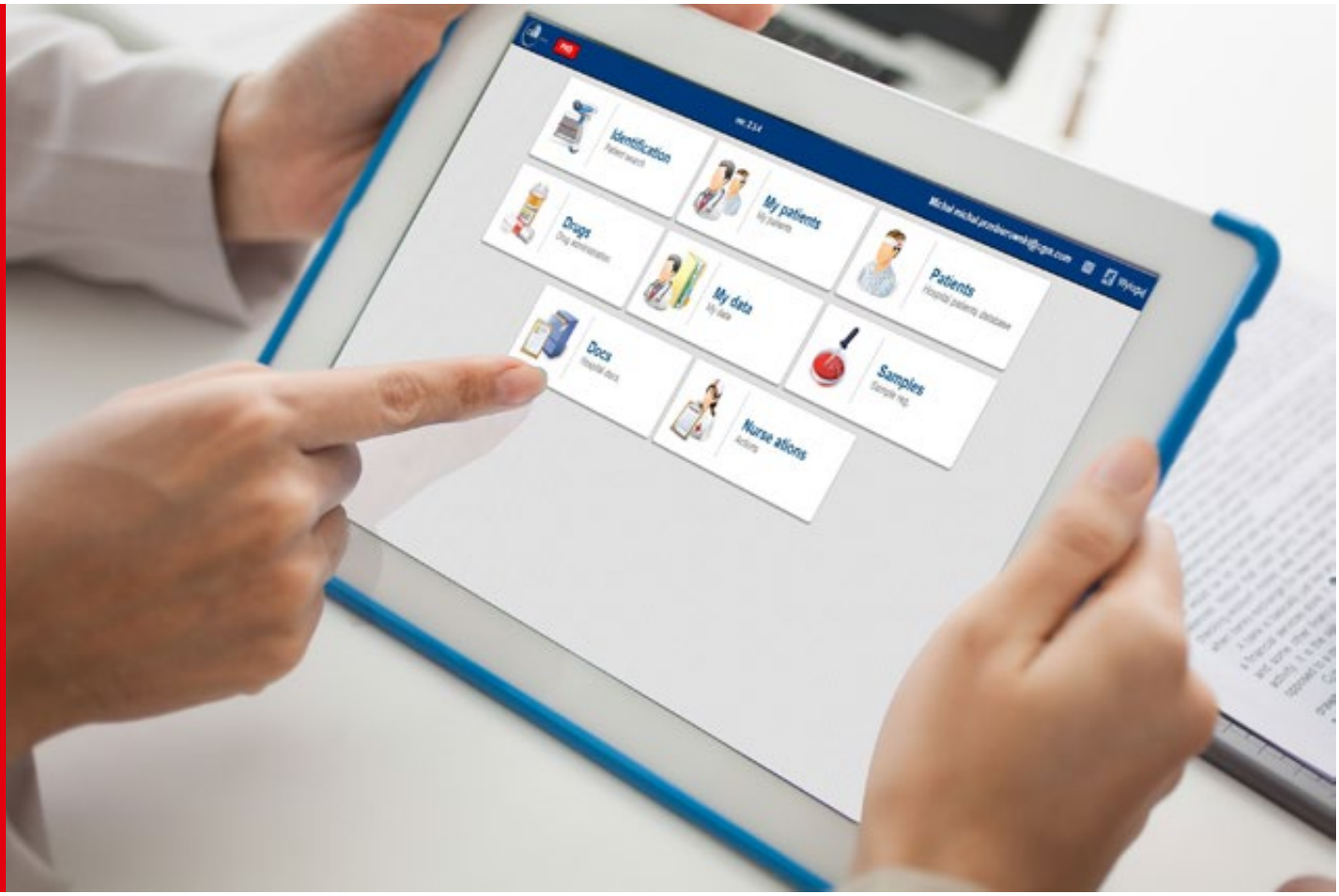
With CGM CWT our small outpost gained access to expert radiologists. The quality of our services were raised considerably.

Hospital Director

05

CGM CLININET TABLET - Mobile medical records

CGM CLININET TABLET is a module for computer-aided treatment processes at the bedside.



5.1. Multimedia medical records

On-going medical activities are easier through the use of mobile technologies. CGM CLININET provides advanced solution to help medical stuff manage all patients data wherever needed, thanks ability to continue work in the system using tablet.

CGM CLININET TABLET provides access to all medical documentation, images, text and forms as well as to patient data. Review and share medical images as well as other medical results with your patients or co-treating practitioners. The solution allows you to prepare the visits to your patients including information such as:

- start date of stay,
- medical background,
- diagnosis,
- main doctor,
- performed tests and results,
- administered drugs,
- descriptive data of medical records,
- graphic curves, e.g. lab, fever, BP, etc.,
- diagnostic images.

5.2. Medical orders

CGM CLININET TABLET allows you to place orders for tests, procedures, and drugs. You can also review the results. Individual order panels are also available to make electronic ordering easier than paper work.

5.3. Patient identification

CGM CLININET TABLET for Patient Identification works with Bluetooth bar code readers. It also allows searching patients according to:

- patient data,
- the organizational structure of branches and halls,
- bar code printed on the wristband,
- doctor patient list.

5.4. Electronic Measurements

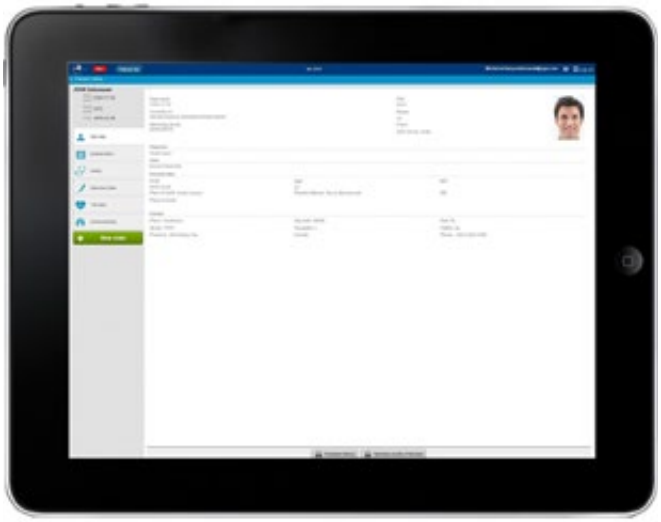
CGM CLININET TABLET gives you the possibility to introduce electronic recording of measurements at the bedside. The result is present in the form of graphs. This eliminates the need for traditional paper cards. All you need is tablet connectivity and Wi-Fi in the patients' rooms.

5.5. Nursing

CGM CLININET TABLET supports the work of nurses. With access to the module at the bedside, nurses can immediately document the drug administration, download material for diagnostic tests or account for various nursing activities according to the plan of nursing care.

5.6. Apple iOS, Android or Windows

Many different tablet devices running different operating systems are on the market. CGM CLININET TABLET is an application tool usable regardless of the operating system installed.



CGM CLININET TABLET is my passport to the future of modern medicine. The application allows me not to be tied to a desk or computer while I have access to all the most important information at the patient's bedside.

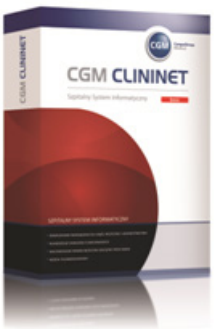
The compatibility with different systems is a great advantage - the program runs on all hardware we have at the hospital.

Doctor

CGM CLININET TABLET is a valuable service to our patients. With it, we have all required information for a safe doctor-patient-encounter in our hand.

Also, patients are pleasantly surprised to see how we work. CGM CLININET TABLET reduced bureaucracy and allowed for faster access to information about each patient.

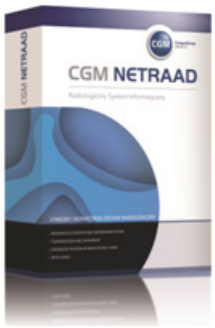
Doctor



CGM CLININET

CGM CLININET is a solution designed to support specialist and teaching hospitals, medical centers and outpatient clinics. It supports the control and management of all relevant aspects in the operation of medical facilities.

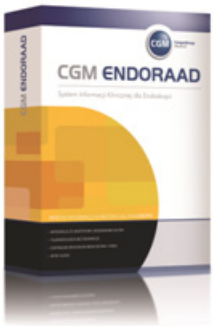
CGM CLININET provides access to patient information via a standard web browser. It enables the creation of a multimedia electronic Patient Record through a consistent collection of all medical patient data. System users have access to clinical patient data, the course of treatment as well as diagnostic and therapeutic examination results. The modular design of the system allows its configuration and development tailored to the specific needs of a medical facility.



CGM NETRAAD

CGM NETRAAD is an integrated information system dedicated to the comprehensive computerization of diagnostic imaging facilities and procedure rooms. The system supports the management of medical information and digital diagnostic images, archiving them and creating and a complete medical documentation in the form of electronic patient record. Our solution improves the operation of a diagnostic imaging facility, provides for cost optimization and a transition to a fully filmless operation.

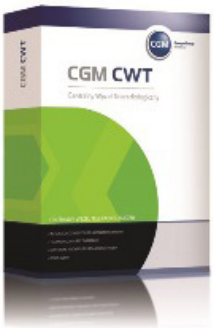
CGM NETRAAD allows connecting multiple devices and diagnostic procedure rooms within a hospital, an outpatient clinic or a large medical network. The scalability of the system supports the expansion tailored to requirements without having to modify and implement additional software. CGM NETRAAD is efficient in both large and small facilities. The range of features and the number of modules depend on the expectations of customers and individual needs of a healthcare facility.



CGM ENDORAAD

CGM ENDORAAD is a system designed to digitally record, archive and interpret diagnostic images and video examinations (e.g. endoscopy, laparoscopy, ultrasound, colonoscopy, gastroscopy, sigmoidoscopy, eRcP, bronchoscopy, eUs). Images or video sequences recorded during an examination are stored in a dedicated archive and made available to doctors for interpretation. The system supports high quality examinations in both DICOM and non-DICOM formats.

CGM ENDORAAD is a multi-module system which provides a number of features, including work in the treatment room, archiving of diagnostic examinations and diagnostic facility management. The system allows users to create reports (capture images and video sequences) in "real time" during the examination. After they are archived, all the images and reports can be viewed on hospital wards and in other locations via any web browser.



CGM CWT

CGM CWT (Central Teleradiological Node) is the latest technology solution which will allow you to cooperate with the best specialists. Using CGM CWT you do not have to worry about the barriers of time and space. The system allows you to communicate with specialists, even if they are on the other side of the globe. This is especially important when patients' health and lives are at stake.

CGM CWT utilizes technologies which enable, among others, sharing files and diagnostic images or generating detailed reports on the procedure. CGM CWT is the future of medicine that you can implement in your hospital today.

CGM DIAGRAAD

CGM DIAGRAAD is a multi-functional viewer of medical images in DICOM format. It allows viewing and manipulating diagnostic images and provides a number of tools to perform medical measurements in digital radiology.






CGM CLININET

Hospital Information System

We help to heal.
Every day.

CompuGroup Medical is one of the leading companies of the eHealth sector in the world. We provide cutting-edge solutions to more than 385 000 customers from 35 countries. Every day, nearly 4000 CGM employees worldwide are daily confronted with new challenges to support healthcare and allow for a better organization of medical personnel's workflow. All this so that our customers can provide the highest quality healthcare services and devote their valuable time to Patients.

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