

Electronic Dental Record System (EDR)

Patient Records in a Single Digital Workspace



The National Dental Centre of Singapore is part of the SingHealth public healthcare cluster network of 3 hospitals, 5 specialty centres and 8 polyclinics. It is the main referral

centre for patients needing specialist oral healthcare in Singapore. The Centre functions primarily as a referral centre for patients requiring specialist attention. It attends to over 600 patients daily.

ELECTRONIC DENTAL RECORD FOR BETTER CARE

The new electronic dental record (EDR) system at the National Dental Centre of Singapore (NDCS) is the first custom-built solution in Singapore to seamlessly integrate all major aspects of patient management in a large-scale dental institution.

The EDR unifies patient history, X-rays and laboratory test results into a single digital workspace, greatly improving records access and workflows. Custom-built for dentistry, the system is linked to the larger SingHealth records system.

The centre sees over 150,000 patients a year, with each clinic episode having some form of records need. The physical records are kept in a room measuring 440 sqm, which could be potentially freed up for more useful purposes such as consultation rooms and clinical labs.



CHALLENGES

- Filing and storage of patients' physical records
- Escalating volume of patients' physical records
- Delay in waiting time due to need for retrieval of patient's physical record
- Need to facilitate and coordinate transfer of patients' information between multiple medical centres or dental specialists

SOLUTION

- Custom-built electronic dental record system which unifies patient history, X-rays and laboratory test results into a single digital system
- Clinical notes module caters to all record keeping needs in the dentistry specialist environment
- System interfaces with the larger SingHealth EMR for electronic dental records exchange

BENEFITS

- Improves patient care by facilitating higher patient safety and quality of care
- Eliminate bulky folders of patients' records, and storage space freed up to make way for consultation rooms
- Quick and timely access to a patient's updated dental history and any pre-existing medical condition allows more thorough assessments in less time
- Cut down on waiting time as patient records retrieval goes electronic

CUSTOM-BUILT SOLUTION FOR SEAMLESS INTEGRATION AND MANAGEMENT OF PATIENT RECORDS

Developed and custom-built by NCS, not only does the EDR enable access of patient records electronically, it also features a clinical notes module which caters to all record keeping needs in the dentistry specialist environment. The system interfaces with the larger SingHealth EMR and enables critical medical information from affiliated hospitals, like the patients' medical history, lab test results and drug allergy alerts, to be shared with dentists for the first time.

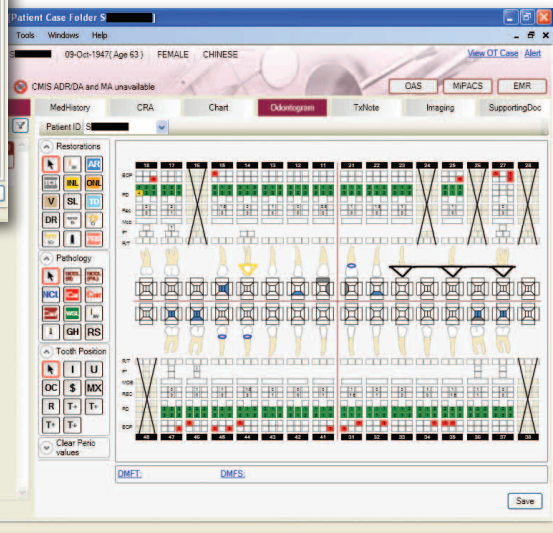
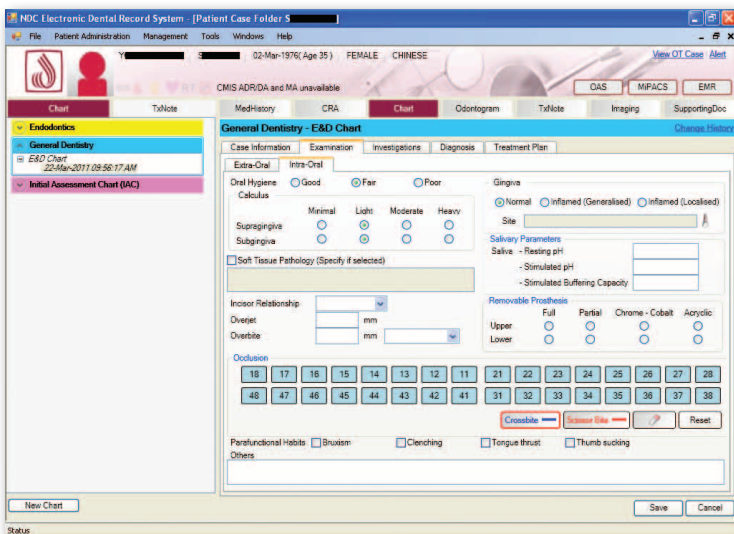
EDR is a service-oriented architecture (SOA) based system, and designed with scalability and high availability in mind. With a rich client build on the Microsoft Windows Presentation Foundation (WPF) it provides improved user experience. It also uses the Health Level Seven (HL7) for information exchange (Patient ADTs, Billing) and interoperability with other health information systems.

INFORMATION SECURITY

Robust security controls are built into the system to protect information confidentiality, to ensure that it is used in a responsible and appropriate manner. Only doctors and healthcare staff who treat the patient will have access to the shared records. The system also provides monitoring and reporting of abnormal Case Folder access.

“Having an electronic system allows the records to be available at all times. This is particularly useful for times when patients with urgent needs come in unscheduled. Previously, the patient would have to wait while a records clerk trace the paper records and deliver it to the doctor. This is no longer the case.”

Dr Koh Chu Guan, Senior Consultant at NDCS and Chairman of the EDR Steering Committee



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