

# **Respiratory Therapy System**



## **Respiratory Therapy System, RTS**

The Respiratory Therapy System (RTS), from the perspective of respiratory therapists and supervisors, plans how to optimize the workflow and quality by leveraging electronic assistance through system digitalization.

In terms of medical equipment, by integrating various brands and types of ventilator devices and utilizing unique methods of data collection, the RTS is able to continuously monitor changes in patients' conditions.

The advantages of RTS are unparalleled. It not only demonstrates foresight in data collection but also reaches the forefront of medical information integration.

The system fully integrates various medical-related information aspects, including patient demographics, medical history, physician orders, bloodgas, input/output records, medical examination reports, medical equipment information, integrated system data aggregation, billing, and statistics report export.

It presents comprehensive clinical information from various facets of respiratory therapy, closely integrating with HIS, NIS, PACS, LIZ, and EMR systems, enabling multi-dimensional integration and application of information for potential developments in AI medical research and applications.



RTS brings about significant innovation in respiratory therapy management.

Tailored to the needs of respiratory therapy units, it meticulously constructs functions for assessing and recording various aspects of respiratory therapy patients. Such as -respiratory therapy assessment ,respiratory therapy treatment plan, respiratory therapy monitoring record, respiratory therapy record, weaning assessment, respiratory

therapy monitoring record, respiratory therapy record, weaning assessment, This enables the medical team to concentrate more on assisting patients with ventilator weaning, ensuring that each step adheres to the highest standards.

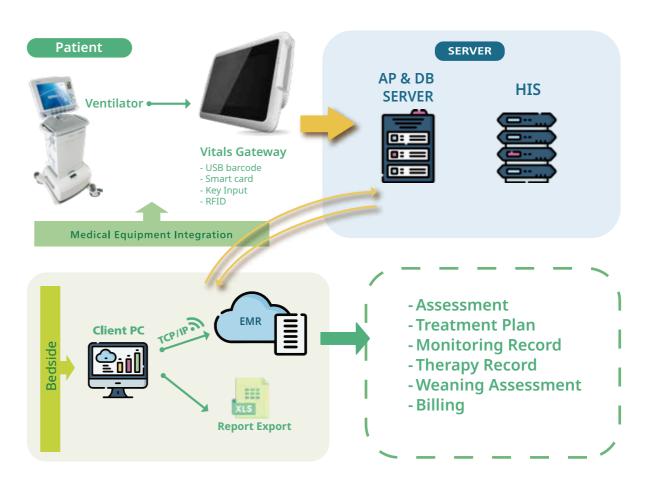
The integration of digital data from ventilators with the system not only generates relevant forms to reduce manual transcription and enhance data accuracy but also establishes a monitoring platform for ventilator locations and alarms.

This enhances the respiratory therapist's ability to manage ventilator usage, reducing patient risks and improving the quality and efficiency of patient care.

Simultaneously, the data from various forms in RTS, along with event markers, can be further integrated with statistical analysis functions. This enables clinical staff and relevant supervisors to continuously analyze various indicators in respiratory therapy operations, thereby optimizing management strategies.

In conclusion, RTS is a revolutionary medical technology solution that provides comprehensive support to healthcare teams through intelligent data collection, integrated information, and powerful functionalities. With its capabilities, it enables high-quality patient care and management, ushering in a new era of healthcare innovation.

## **System Architecture**





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## **System Features**

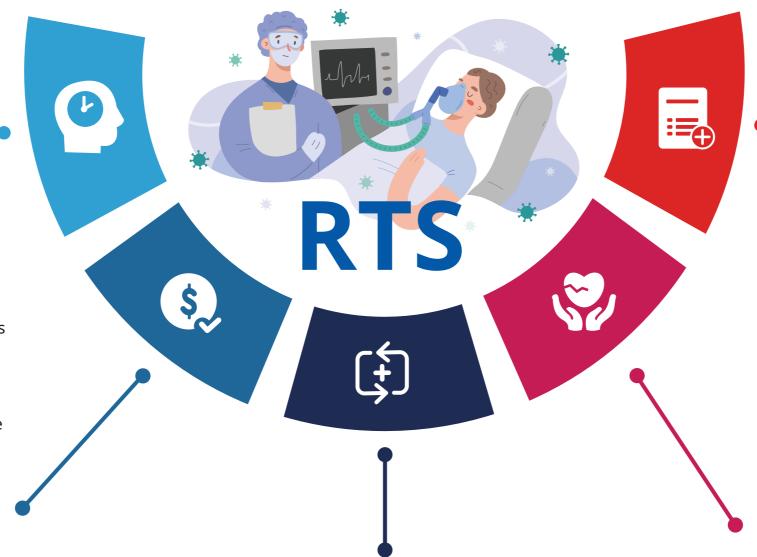


The digitized system eliminates the complexity of traditional paper-based operations. All patient related information is directly obtained from the hospital's database. Relevant assessments and records only need to be filled out once, and other related functions can be referenced as needed. The efficiency and accuracy of recording patient-related medical history are significantly enhanced, thereby elevating the quality of patient care.



After the electronic implementation of the system, it becomes possible to quantify the actual workload of respiratory therapy-related personnel and the execution of respiratory therapy tasks within the hospital's respiratory care department. Management supervisors can utilize this quantified work to evaluate overall performance and operational efficiency, enabling them to further optimize future management strategies.

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### Flexible & Expansion

RTS is built on a modular design foundation, emphasizing openness and scalability. This system forms and functionalities can be expanded or optimized through additions. Easily integrates with other vital hospital systems (such as HIS, EMR, and LIS) to exchange and sharing. This aids physicians in conducting relevant academic research and fulfills data-related needs for other departments. Ultimately, it provides a comprehensive and seamless healthcare information ecosystem.

## Medical Equipment Data Standardization

This information system significantly enhances patient care through a comprehensive system plan, including:

Patient handover and assessment=>plan formulation=>recording the status of ventilator=>weaning training=>execution of weaning process. The meticulous planning of information flow ensures that respiratory therapists can perform their tasks more efficiently and accurately.

The planning of assessment and plan formulation also aligns better with the progression of the patient's condition

## Patient Care Quality Improvement

Leveraging advanced interfaces, the system unlocks a realm of expanded clinical capabilities. It seamlessly integrates with a variety of medical devices and technologies, enriching the clinical environment with real-time data and insights. This synergy enhances the quality of care, optimizes workflows, and empowers medical professionals to deliver personalized treatments based on the latest advancements and data-driven insights.

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## **System Functions**



#### **Staff and Patient Management**

- Patients basic information
- Personal patient list
- Handover Process
- Transfer note



#### **Equipment Maintenance Form**

Integrate the various categories of respiratory therapy equipment into the system for management.

Relevant check record, maintenance (daily, monthly, quarterly), and records of

- Management
- Maintenance Form



#### **Ventilator Location**

By utilizing the Respiratory Therapy Monitoring Record and the VIP data transmission mechanism, it becomes possible to achieve a graphic display of the positions of ventilators. This empowers stuff to have a clear overview of the location of each ventilator, facilitating effective allocation and utilization.



#### **Alarm Center**

Through the transmission of VIP, an alarm system central station can be established for the ventilators. This central station monitors the dynamic upload of data from all bed units and tracks alarm occurrences. This comprehensive monitoring enhances patient safety by reducing risks and elevates the quality of care.



#### **Electronic Medical Record (EMR)**

- Assessment
- Treatment Plan
- Monitoring Record
- Therapy Record
- Weaning Assessment



#### **Billing**

By digitizing relevant records and physician orders, the process of billing can be streamlined and automated. This increases the accuracy and efficiency of financial management while reducing the potential for errors. This reliable support benefits the team by optimizing financial processes.



#### **Authority Management**

Based on the identity of the user, determine the available functionalities upon entering the system, allowing the system to accommodate different usage scenarios. (Doctor, Respiratory therapist, Medical records office administrator, system administrator...etc)



## Report Export (Weaning profile, Work volume...etc)

The system calculates and generates reports based on all types of EMR records and event markers. It quantifies the workload, displays real-time

healthcare indicators, and provides managers with the ability to adjust work schedules in real-time. This optimization of management strategies enhances the quality of care and cost control.