

Healthcare Information Systems (Part II)

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MHA621
Healthcare Informatics

Lecture 5



Intended Objectives

1. Define Administrative Information Systems (AIS) in healthcare.
2. Outline key AIS components: registration, scheduling, financial, HR, ADT, and contract management.
3. Highlight AIS applications in optimizing healthcare operations.
4. Assess AIS benefits in efficiency, error reduction, and resource optimization.
5. Emphasize the value of AIS integration with clinical systems for better patient care.

Administrative Information Systems (AIS)



➤ *What are Administrative Information Systems (AIS)?*

▪ **Information systems that:**

- Support client care by managing administrative, financial, and demographic data.
- Include client-management services, financial systems, and more.



Key Components of AIS

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- **Registration and Scheduling**
- **Financial Systems**
- **Payroll and Human Resources**
- **Quality Assurance and Risk Management**
- **Contract Management**

Examples of AIS Applications



1. Registration and Scheduling Systems

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➤ Importance in Healthcare Operations:

- Registration and scheduling systems are **critical to the effective operation of healthcare systems.**
- They ensure smooth patient flow, reduce wait times, and improve overall patient satisfaction.
- These systems help healthcare providers manage resources efficiently, such as staff, equipment, and facilities.

1. Registration and Scheduling Systems

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➤ Core Functions:

- **Collects and stores client identification and demographic data:** This includes name, address, contact information, date of birth, insurance details, and medical history.
- **Facilitates appointment scheduling:** Patients can book, reschedule, or cancel appointments easily.

1. Registration and Scheduling Systems

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➤ Core Functions:

- **Tracks patient visits:** Maintains a record of past and upcoming appointments for better continuity of care.
- **Supports billing and insurance processing:** Integrates with billing systems to ensure accurate invoicing and claims management.

1. Registration and Scheduling Systems

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➤ Key Features:

- **User-friendly interface:** Simplifies the registration and scheduling process for both patients and staff.
- **Real-time updates:** Provides up-to-date information on appointment availability and patient status.

1. Registration and Scheduling Systems

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➤ Key Features:

- **Integration with Electronic Health Records (EHR):** Ensures seamless access to patient data across departments.
- **Automated reminders:** Sends notifications via SMS, email, or phone calls to reduce no-show rates.

1. Registration and Scheduling Systems

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➤ Benefits:

- **Improved efficiency:** Reduces administrative workload and streamlines operations.
- **Enhanced patient care:** Enables better coordination among healthcare teams.
- **Data accuracy:** Minimizes errors in patient information and scheduling.
- **Resource optimization:** Helps in allocating resources based on patient demand.

Chapter



Patient Queue



All

Oldest

Newest



Bessie Cooper

Register: 12 March 2023



Jerome Bellingham

Register: 12 March 2023



Darlene Robertson

Register: 12 March 2023



Albert Flores

Register: 12 March 2023



Savannah Nguyen

Register: 12 March 2023



Jenny Wilson

Register: 12 March 2023



Kathryn Murphy



Jerome Bellingham

MEMBER

Joined Since : 12 March 2023



Basic Informational



Gender

Male



Birthday

12 August 2001



Phone Number

+62 837 356 343 23



Email

jeromebellingham93@mail.com



Sources



Appointment Schedule



12 Oct 2023

Prosthetic Tooth Fabrication

Drg. Wade Warren



12 Sep 2023

Post-Surgical Care

Drg. Marvin McKinney



12 Aug 2023

Implant Placement

Drg. Floyd Miles



12 Jul 2023

History dental

ID	Type Treatment	Date	Result Treatment	Payment Status	
#12324	Implant	12 Jun 2023	Well done	Pending	...
#20324	Route canal	4 May 2023	Well done	Paid	...
#57686	Dentures	2 Mar 2023	Well done	Paid	...
#68767	Whitening	16 Feb 2023	Well done	Paid	...
#69696	Implant	9 Jan 2023	Well done	Paid	...

Data of assurance



234-234-232-32

Expiry

23/04/2024

Status

Activated

Member Dentalica



Start Date Joined

12 Des 2023

Extend

Agreement of document



Agreement_Meditation.zip

2.3 mb



Provision of information.pdf

1.2 mb



Agreement_Meditation.zip

2.3 mb



Provision of information.pdf

1.2 mb



2. Admission/Discharge/Transfer (ADT) Systems

➤ Purpose and Functionality:

- Supports the entire patient journey from **admission** to **discharge**.
- Tracks and manages **patient location** within the healthcare facility in real-time.
- Ensures accurate and **up-to-date patient information** is available to **all relevant departments**.

2. Admission/Discharge/Transfer (ADT) Systems

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➤ Key Features:

▪ Admission:

- Captures patient demographic and insurance details.
- Assigns a unique patient identifier for tracking.
- Initiates the patient's electronic health record (EHR).

2. Admission/Discharge/Transfer (ADT) Systems

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➤ Key Features:

■ Discharge:

- Coordinates discharge planning and documentation.
- Ensures proper handoff to post-acute care or outpatient services.
- Updates bed availability for new admissions.

2. Admission/Discharge/Transfer (ADT) Systems

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➤ Key Features:

▪ Transfer:

- Manages patient transfers between departments, units, or facilities.
- Ensures continuity of care during transitions.
- Updates patient location and status in real-time.

2. Admission/Discharge/Transfer (ADT) Systems

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➤ ADT System Integration:

A. Integration with Administrative Systems:

1. Links with **billing and insurance systems** for accurate charge capture and claims processing.
2. Synchronizes with **bed management systems** to optimize bed utilization.
3. Connects with **scheduling systems** for efficient appointment and resource allocation.

2. Admission/Discharge/Transfer (ADT) Systems

➤ ADT System Integration:

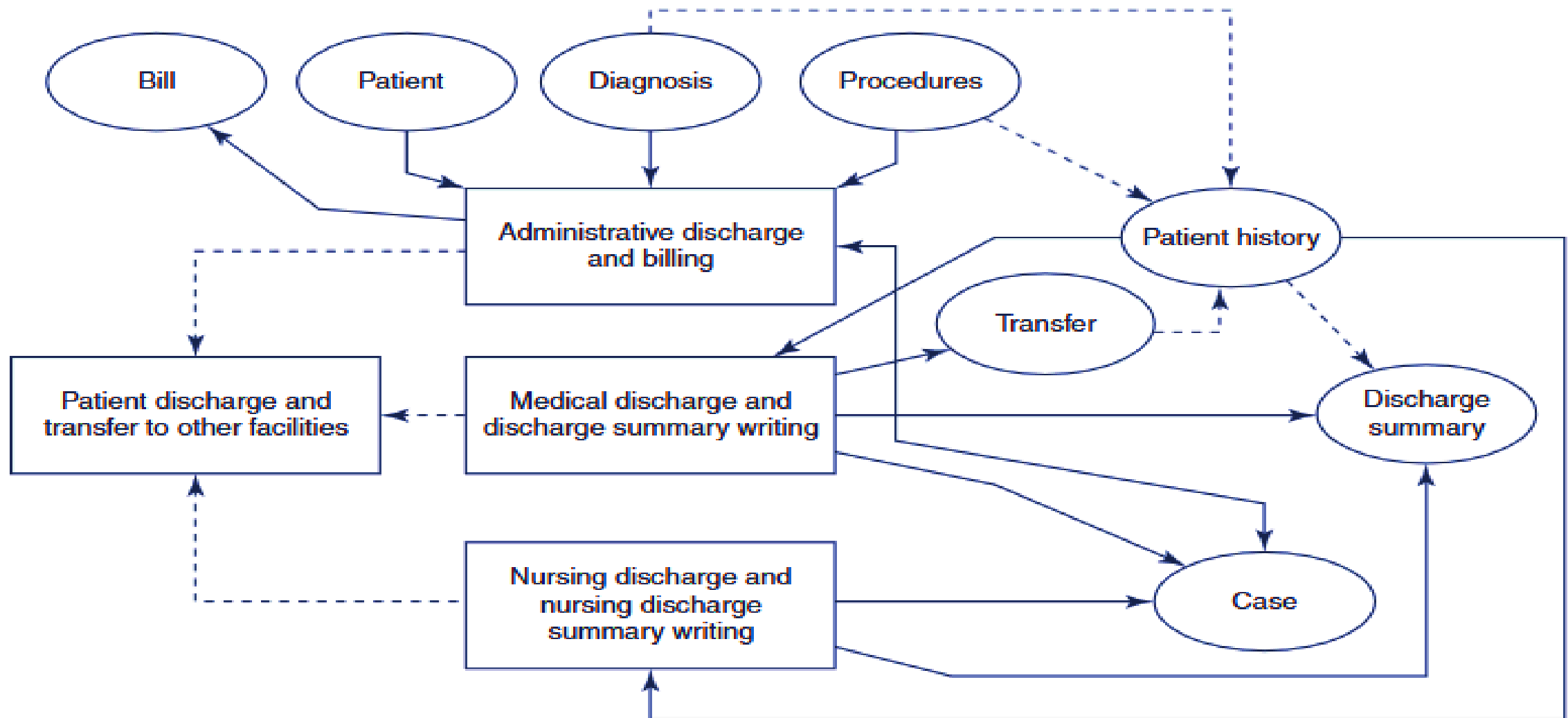
B. Integration with Clinical Systems:

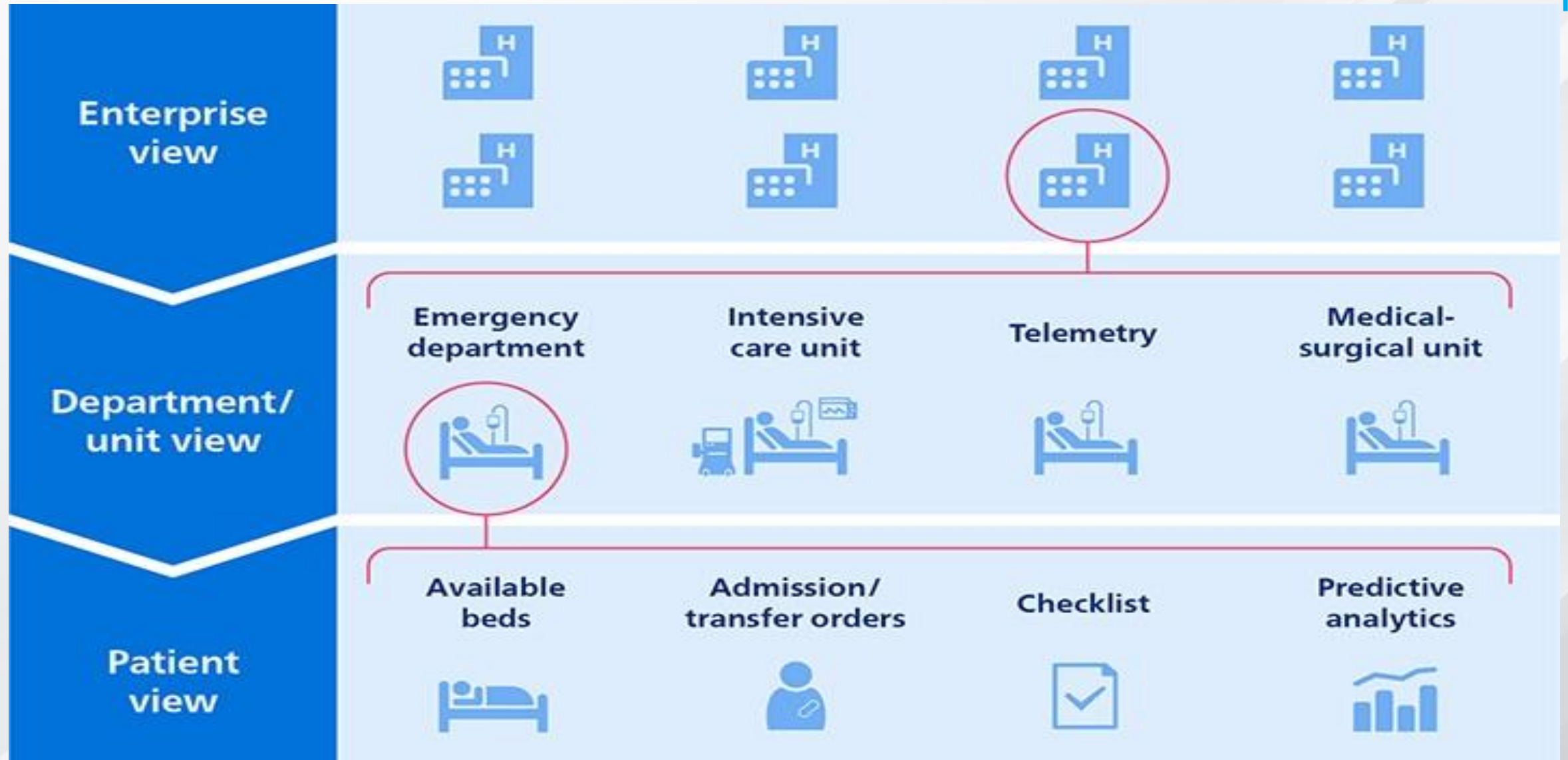
1. Interfaces with **Electronic Health Records (EHR)** for seamless access to patient data.
2. Integrates with **nurse call systems** to alert staff about patient needs during transfers.
3. Connects with **laboratory and radiology systems** to ensure test results follow the patient.

2. Admission/Discharge/Transfer (ADT) Systems

➤ **Benefits:**

- Improves patient flow and reduces bottlenecks.
- Enhances patient safety by ensuring accurate location tracking.
- Streamlines communication between departments.
- Reduces administrative burden and errors.





3. Payroll and HR Systems

➤ Purpose:

- Centralized software for managing employee-related processes.
- Streamlines payroll, attendance, benefits, and career development.

➤ Key Functions:

- Tracks attendance, payroll, benefits, and performance.
- Integrates data for effective workforce management.

3. Payroll and HR Systems

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➤ Key Features:

1. Attendance & Time Management:

- Tracks clock-in/out, leaves, and time sheets.

2. Payroll Processing:

- Automates salary calculations, taxes, and payments.

3. Payroll and HR Systems

➤ Key Features:

3. Benefits Administration:

- Manages health insurance, retirement plans, and employee contributions.

4. Career Development:

- Tracks performance, training, and succession planning.

3. Payroll and HR Systems

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➤ Benefits:

- **For Organizations:**
 - Saves time and reduces administrative costs.
 - Provides data-driven insights for decision-making.
 - Ensures compliance with labor laws and regulations.
- **For Employees:**
 - Transparent access to payroll and benefits.
 - Self-service tools for convenience and empowerment.

4. Contract Management Systems

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➤ What is a Contract Management (CM) System?

- Software to manage third-party contracts and vendor agreements.
- Tracks, stores, and retrieves key documents.

➤ Purpose

- Streamlines contract processes.
- Enhances organization and efficiency.

4. Contract Management Systems

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➤ Key Functions:

1. Contract Creation:

- Automates drafting using templates.
- Ensures consistency and compliance.

2. E-Procurement:

- Supports vendor selection and bidding.
- Monitors procurement activities.

4. Contract Management Systems

➤ Key Functions:

3. Reporting & Analytics:

- Real-time dashboards for performance tracking.
- Compliance monitoring through detailed reports.

4. Alerts & Notifications:

- Reminders for renewal or expiration dates.
- Notifications for critical events.

4. Contract Management Systems

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➤ Benefits:

■ Increased Efficiency

- Reduces time managing contracts.
- Centralized storage for quick document retrieval.

■ Risk Reduction

- Maintains audit trails and tracks changes.
- Ensures compliance with legal standards.

■ Cost Savings

- Prevents missed deadlines and penalties.
- Optimizes vendor and contract performance.

Case Study



Case Study

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- **FutureCare** Hospital recently implemented advanced **Administrative Information Systems (AIS)** to streamline hospital operations and improve patient care. This case follows a patient, Mr. Ahmed, during his journey through the hospital, illustrating the efficiency, practical functions, and importance of the AIS components.

Case Study

➤ Registration and Scheduling

- **Scenario:** Mr. Ahmed arrives at the hospital for a scheduled cardiology appointment.
- **AIS Functionality:**
 - Patient registration is completed swiftly using pre-stored information.
 - The scheduling system confirms his appointment and notifies the cardiology department.
 - **Efficiency:** Reduces patient wait times and ensures accurate scheduling.
 - **Importance:** Prevents overbooking and ensures resource availability.

Case Study

➤ Financial Systems

- **Scenario:** Before consultation, Mr. Ahmed pays his **copayment**.
- **AIS Functionality:**
 - Generates an accurate billing summary.
 - Updates his financial records in real-time.
 - **Efficiency:** Speeds up payment processing with minimal errors.
 - **Importance:** Ensures transparency in hospital charges and facilitates timely revenue collection.

Case Study

➤ Payroll and Human Resources

- **Scenario:** The attending nurse, Ms. Salma, is notified about Mr. Ahmed's consultation through her shift schedule.
- **AIS Functionality:**
 - Tracks staff schedules and assigns resources based on workload.
 - Ensures Ms. Salma receives timely payroll updates linked to her shifts.
 - **Efficiency:** Streamlines staffing and prevents scheduling conflicts.
 - **Importance:** Boosts staff satisfaction and ensures adequate resource allocation.

Case Study

➤ Admission/Discharge/Transfer (ADT) Systems

- **Scenario:** After his consultation, Mr. Ahmed is recommended for a 24-hour observation in the hospital's inpatient department.
- **AIS Functionality:**
 - Updates his admission details in the ADT system.
 - Tracks bed availability and assigns him a suitable room.
 - **Efficiency:** Prevents manual tracking errors and speeds up the admission process.
 - **Importance:** Ensures smooth transitions and improves bed management.

Case Study

➤ Contract Management Systems

- **Scenario:** During his stay, Mr. Ahmed requires a specific cardiac monitor, sourced from a contracted vendor.
- **AIS Functionality:**
 - The system identifies the vendor contract and places an automated requisition.
 - Tracks delivery status and ensures compliance with the terms.
 - **Efficiency:** Guarantees timely access to equipment.
 - **Importance:** Reduces delays in care and ensures vendor accountability.

Wrap Up

1. AIS components are essential for managing administrative, financial, and demographic data efficiently.
2. Registration and scheduling systems improve patient flow and resource allocation.
3. Financial systems ensure accurate billing and real-time financial tracking.
4. Payroll and HR systems streamline workforce management and enhance employee satisfaction.

Wrap Up

5. ADT systems ensure seamless patient tracking from admission to discharge.
6. Contract management systems optimize vendor relationships and reduce compliance risks.
7. Integration of AIS with clinical systems enhances operational efficiency and patient outcomes.
8. AIS adoption reduces administrative burdens, improves accuracy, and ensures better decision-making in healthcare organizations.



Thank You