

Bupa

HEALTH & CARE

INFORMATION SYSTEMS AT BUPA

The role of information systems & DBMS in delivering better healthcare

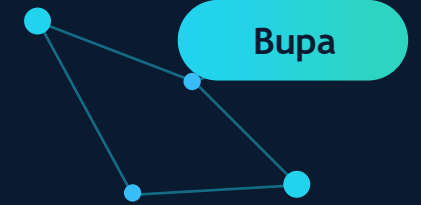
Group C

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"Bupa uses information systems and data to deliver simple, personal and connected healthcare for a better world."

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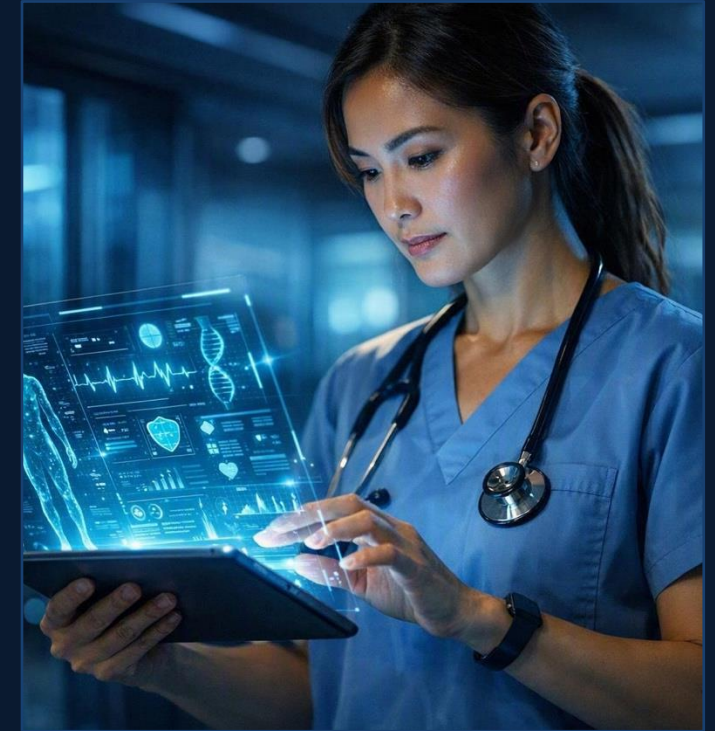
Overview

OVERVIEW

This presentation explains how Bupa uses information systems to improve healthcare delivery, patient care, operational efficiency and decision-making — with a focus on the role of Database Management Systems (DBMS).

WHAT THIS COVERS

- Role of DBMS in managing healthcare data
- Different information systems compared
- Key ethical considerations & safeguards
- Real-world case studies at Bupa & the NHS



“Information is the lifeblood of healthcare. At Bupa, the right information, in the right system, at the right time, saves lives, improves decisions and changes lives.”

Introduction

WHY INFORMATION SYSTEMS MATTER

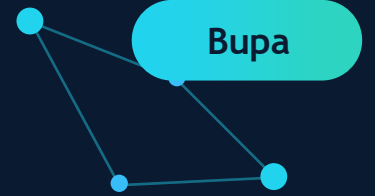
Information systems are essential in modern healthcare organisations such as Bupa. They enable secure management of patient information, improve communication between departments, support managers in making informed decisions, and enhance service quality.

WHAT THEY ENABLE

- Secure management of patient data
- Better communication across departments
- Informed managerial decisions
- Higher quality of care

A DBMS acts as the foundation — storing, organising and protecting healthcare data across every system.

Introduce Different Information Systems



TPS

Transaction Processing System

Handles day-to-day transactions such as appointment booking, billing, claims processing and record management.

MIS

Management Information System

Generates reports and summaries for managers to monitor performance and support planning.

DBMS

Database Management System

Stores, organises and manages large volumes of patient records — ensuring security, accuracy, availability and fast retrieval.

Analyse & Compare Systems

System	Main Function	Main Users	Example at Bupa
TPS	Processes daily transactions	Front-line staff	Appointment booking & billing
MIS	Reports & performance summaries	Managers	Monitoring service performance
DBMS	Stores & secures all data	All systems / IT	Central patient record database

Each system serves a distinct role — together they form an integrated information architecture across Bupa.

Ethical Considerations



KEY ETHICAL ISSUES

- **Data Privacy**

Protect patient data and respect confidentiality.

- **Data Security**

Guard systems against cyber threats and breaches.

- **Data Accuracy**

Keep records correct, complete and up to date.

- **Employee Monitoring**

Monitor staff fairly and transparently.

- **Algorithm Bias**

Avoid bias in AI and automated decisions.

HOW BUPA CAN MANAGE RISKS

- ✓ Encryption and secure access controls
- ✓ Regular staff training and awareness
- ✓ Strict data-protection policies (GDPR)
- ✓ Ongoing audits and system monitoring
- ✓ Ethical governance of AI and data

Real-World Case Studies



CASE STUDY 1 Bupa

System · EPR · MyBupa App · Cloud DBMS

CHALLENGE

Managing millions of patient records securely while providing digital healthcare.

SOLUTION

Electronic Patient Records (EPR), the MyBupa App and a cloud-based DBMS.

ETHICAL ISSUES

- GDPR compliance
- Patient privacy
- Cybersecurity
- Data accuracy

IMPACT

- Faster appointments
- Better patient experience
- Improved efficiency
- Secure access to records

CASE STUDY 2 King's College Hospital NHS FT

System · Epic EHR (MyChart)

CHALLENGE

Multiple legacy IT systems and paper-based records across the Trust.

SOLUTION

Implemented Epic and MyChart across the Trust.

ETHICAL ISSUES

- Confidentiality
- Secure patient access
- Data protection

IMPACT

- One complete patient record
- Better communication
- Reduced paperwork
- Faster clinical decisions

Real-World Case Studies (cont.)



CASE STUDY 3

Cambridge University Hospitals

System · eHospital (Epic) · Addenbrooke's

CHALLENGE

Paper-based records and disconnected IT systems.

SOLUTION

A fully integrated Electronic Patient Record system.

ETHICAL ISSUES

- Access control
- Cybersecurity
- Data governance

IMPACT

- Real-time patient information
- Safer medication administration
- Improved patient safety
- Better operational efficiency

CASE STUDY 4

NHS England

System · National EPR Programme

CHALLENGE

Different hospitals using incompatible systems.

SOLUTION

Nationwide rollout of Electronic Patient Records.

ETHICAL ISSUES

- Data sharing
- Cybersecurity
- Privacy
- Interoperability

IMPACT

- More integrated healthcare
- Improved patient safety
- Better information sharing
- Faster decisions across the NHS

Conclusion

KEY TAKEAWAY

Information systems and DBMS are central to Bupa's mission of better healthcare. They boost efficiency, decision-making and patient care while keeping data secure — helping Bupa deliver simple, personal and connected healthcare for a better world.

EFFICIENCY

Streamlined operations, records and everyday workflows.

BETTER DECISIONS

Data-driven clinical, financial and strategic choices.

SECURE CARE

Protected patient data, privacy and confidentiality.

Recommendations

01

Continue investing in secure cloud infrastructure.

02

Strengthen data protection and staff training.

03

Expand ethical use of AI in decision-making.

04

Integrate systems for seamless data flow.

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Thank You

Group C · Database Management Systems (DBMS)

INFORMATION. INSIGHT. IMPACT.

Powering better health for a better world. · Care · Integrity · Courage · Extraordinary