Cloud-Based Hospital Information Systems (HIS) and Their Role in Transforming Healthcare Delivery in Benin: Comparative Insights from Other African Countries

1. Introduction (Approx. 250 words)

- Overview of healthcare digitalisation globally and in Africa
- Brief explanation of HIS and transition towards cloud-enabled systems
- Relevance of modernising health systems in developing countries
- Link to Benin's national digital strategy

Includes:

- Aim of the review
- Significance of the topic

2. Context, Research Question, and Theoretical Framework (Approx. 200 words)

Context:

- State of HIS adoption in Benin and Sub-Saharan Africa
- Digital inequalities and organisational readiness challenges

Research Question:

To what extent can cloud-based Hospital Information Systems support the improvement of healthcare delivery in Benin, and what lessons can be drawn from African countries with more advanced e-health implementations?

Frameworks (for analysis and synthesis):

- **Technology Acceptance Model (TAM)** – adoption and stakeholder acceptance
- **HOT-Fit Framework** – evaluation of technology, organisation, and human factors
- **Information Systems Success Model (DeLone & McLean)** – system quality, user satisfaction, net benefits

3. Methodology (Approx. 200 words)

A **structured literature review** approach will be used.

Databases:

- Scopus, PubMed, IEEE Xplore, SpringerLink, ScienceDirect, Google Scholar.

Inclusion criteria:

- Peer-reviewed sources

- Years: **2020–2025**
- English
- Focus on African HIS, cloud-based HIS, digital health adoption

Search strategy keywords:
"Hospital Information Systems Africa", "cloud-based HIS", "digital health Benin", "cloud adoption healthcare Africa", "electronic medical records (EMR) developing countries".

Exclusion criteria:

- Studies focused solely on telemedicine or cybersecurity
- Non-African contexts unless conceptually necessary
- Duplicate or non-academic publications

4. Review of Literature (Approx. 800–1000 words)

4.1. Definition and Scope of Hospital Information Systems

- Components: EMR, pharmacy, lab systems, patient administration
- Expected benefits (efficiency, data accuracy, interoperability)

4.2. Cloud Computing in Healthcare

- Motivations for cloud adoption (cost, scalability, reduced infrastructure burden)
- Relevance to resource-limited settings

4.3. HIS Adoption in African Contexts

- Rwanda e-Health implementation
- Kenya's national digital health strategy
- Ghana's EMR deployment
- Lessons transferable to Benin

4.4. Current State of HIS in Benin

- Existing national initiatives
- Barriers (training, infrastructure, governance)
- Opportunities (mobile penetration, public sector reforms)

4.5. Emerging Themes from the Literature

- Organisational readiness
- Training and digital literacy
- Infrastructure and interoperability challenges
- Governance and policy alignment

5. Critical Evaluation (Approx. 400 words)

- Strengths and weaknesses in existing research
- Gaps in Francophone West Africa evidence
- Contradictions in reported outcomes (efficiency vs. implementation complexity)

- Limited real-world evaluations and longitudinal data

6. Conclusion and Future Directions (Approx. 150 words)

- Summary of key findings
- Implications for policymakers and healthcare stakeholders in Benin
- Proposed directions for future studies (implementation frameworks, pilot studies, evaluation models)

7. References

- Health Information System in Developing Countries by H. Bagherian et al. (2022) couvre l'adoption des HIS dans les pays en développement. PMC
- Health information systems in developing countries: Case of African countries by Ulrick Bisvigou, Edgard Brice Ngoungou, Gayo Diallo, Aimé Patrice Koumamba (2020) — revu des HIS en Afrique. ResearchGate
- Cloud Computing Adoption by Public Hospitals in Kenya: A Technological, Organisational and Behavioural Perspective by Ogwel, Otieno & Odhiambo (2020) — étude sur l'adoption du cloud dans les hôpitaux publics au Kenya. ResearchGate
- A framework for assessing cloud computing readiness in hospitals by Mmako et al. (2025) — cadre pour évaluer la "cloud-readiness" dans des hôpitaux sud-africains. sajim.co.za
- Digitalisation of public services in Benin: challenges and opportunities by G. N. Djossou (2022) — bien que ce soit plus large que la santé, très pertinent pour le contexte béninois. INCLUDE Platform
- Conceptualizing a model for cloud-based hospital management system by Magudulela et al. (2023) — modèle pour HMS cloud au secteur public en Afrique du Sud. oaji.net
- Systematic review: Decentralised health information systems in Africa by O. O. Ogundaini (2022) — revue systématique des défis sociotechniques des HIS en Afrique. td-sa.net