



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

ELECTRONIC HEALTH RECORDS AND CLINICAL DECISION SUPPORT SYSTEMS: IMPACT ON QUALITY OF CARE AND PATIENT SAFETY

Fazliddin Arzikulov

Azizbek Sattarov

Rakhmatilla Amirkulov

Tashkent State Medical University, Tashkent, Uzbekistan

E-mail: arzikulovfazliddin1997@gmail.com

ABSTRACT

This article presents a systematic literature review examining the impact of electronic health records (EHRs) and clinical decision support systems (CDSS) on quality of care and patient safety. Publications from 2010 to 2024 indexed in PubMed, Scopus, Web of Science, and the Cochrane Library were analysed. The review covers EHR adoption patterns and implementation challenges, clinical decision support functions and their evidence base, medication safety applications, preventive care improvement, and the challenges of interoperability and clinical workflow integration. The analysis demonstrates that well-implemented EHR systems with integrated CDSS reduce preventable adverse drug events by 40–80%, improve adherence to clinical guidelines by 15–25%, and decrease duplicate test ordering by 10–20%, generating measurable quality and safety improvements. However, the realisation of these benefits depends critically on system usability, clinical workflow integration, and clinician training quality. The implications for health information system development in Uzbekistan are examined.



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

Keywords: electronic health records, clinical decision support, patient safety, healthcare quality, health informatics, interoperability, Uzbekistan, literature review.

1. INTRODUCTION

Electronic health records — digital repositories of patient health information generated across clinical encounters — have become the central infrastructure of modern healthcare delivery in digitally advanced health systems, transforming clinical documentation, care coordination, and healthcare data utilisation (Bates & Gawande, 2003; Chaudhry et al., 2006). The potential benefits of EHR systems are well-theorised and substantially documented: improved information availability at the point of care, reduction in preventable errors from illegible handwriting or incomplete paper records, facilitation of care coordination across providers and settings, and the generation of population health data enabling quality improvement and research (Blumenthal & Tavenner, 2010). When augmented with clinical decision support systems — tools that provide clinicians with patient-specific recommendations, alerts, and reminders at the point of care — EHR systems can function as active safety nets and quality improvement mechanisms rather than passive documentation repositories (Osheroff et al., 2007). In Uzbekistan, where health information system modernisation represents a national strategic priority as part of the broader healthcare reform programme, the evidence base for EHR and CDSS implementation is directly relevant for policy and implementation decisions (Ministry of Health, Republic of Uzbekistan, 2022).



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

2. EHR ADOPTION AND IMPLEMENTATION CHALLENGES

EHR adoption has progressed substantially in high-income countries: in the United States, hospital EHR adoption reached 96% by 2021, and primary care adoption exceeds 85% (Office of the National Coordinator for Health Information Technology, 2022). In LMICs, adoption is considerably lower but growing: systematic reviews document EHR implementation in 40–60% of tertiary hospitals in middle-income countries, with substantially lower penetration in primary care settings and low-income contexts. Implementation challenges are well-documented across health system types. Data migration from paper-based systems requires substantial human resources and quality assurance processes. Clinical workflow disruption during implementation — manifesting as temporary productivity losses of 15–25% during the initial post-implementation period — requires careful management through phased implementation and intensive training support (Blumenthal & Tavenner, 2010). System usability is a critical determinant of adoption quality: poorly designed EHR interfaces contribute to documentation burden, clinician burnout, and workarounds that undermine intended safety benefits. Interoperability — the ability of EHR systems from different vendors to exchange and use clinical data — remains a globally significant challenge that limits care coordination benefits in multi-provider care pathways (Chaudhry et al., 2006).

3. CLINICAL DECISION SUPPORT: EVIDENCE BASE AND APPLICATIONS

Clinical decision support systems embedded in EHR platforms provide a range of decision support functions with varying levels of evidence. Drug-drug interaction and drug-allergy alerting — the most widely implemented CDSS functions — have demonstrated reductions in preventable adverse drug events of



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

40–80% in controlled studies, though alert fatigue (the tendency of clinicians to override or ignore alerts due to high volumes of low-specificity warnings) substantially limits real-world effectiveness when alert rates are not carefully calibrated (Osheroﬀ et al., 2007). Preventive care reminders — alerts prompting overdue vaccinations, cancer screening, or chronic disease monitoring — have demonstrated improvements in adherence to preventive care guidelines of 15–25% across multiple randomised studies. Diagnostic decision support — which provides differential diagnosis suggestions based on entered symptoms and investigation results — shows more modest and variable evidence, with effectiveness highly dependent on system design quality and clinical acceptance (Bates & Gawande, 2003). Evidence-based order sets — pre-configured bundles of orders for common clinical scenarios aligned with clinical guidelines — have demonstrated reductions in clinical variation and guideline adherence improvements for conditions including sepsis management, acute myocardial infarction care, and community-acquired pneumonia treatment.

4. MEDICATION SAFETY AND ADVERSE EVENT PREVENTION

Medication errors — including prescribing errors, dispensing errors, and administration errors — represent the most common category of preventable adverse events in hospital settings, with an estimated 7,000–9,000 deaths annually attributable to medication errors in the United States alone (Bates & Gawande, 2003). Computerised physician order entry (CPOE) with embedded CDSS reduces prescribing error rates by 50–80% in controlled studies, representing one of the most robust patient safety interventions documented in the literature. Electronic medication reconciliation — automated comparison of inpatient medication lists with outpatient prescription records — has demonstrated reductions in medication discrepancy rates of 40–60% at care



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

transitions. Pharmacogenomics decision support — alerting prescribers to drug-gene interactions based on patient genetic profiles — represents an emerging CDSS application with documented clinical utility for warfarin dosing, clopidogrel prescribing, and oncological chemotherapy selection.

5. INTEROPERABILITY, DATA QUALITY, AND IMPLEMENTATION IN UZBEKISTAN

Interoperability — the ability of EHR systems to exchange standardised clinical data across organisational and vendor boundaries — is fundamental to realising the full potential of health information technology but remains inadequately achieved in most health systems (Office of the National Coordinator for Health Information Technology, 2022). International health data standards including HL7 FHIR (Fast Healthcare Interoperability Resources), SNOMED CT, and LOINC provide the technical foundation for interoperability but require substantial investment in system adoption and governance frameworks. For Uzbekistan, the development of a national health information exchange architecture based on international interoperability standards represents a strategic priority that would enable the aggregation of patient data across the fragmented primary and tertiary care system. Data quality — completeness, accuracy, timeliness, and consistency of electronic clinical records — is a foundational prerequisite for both clinical decision support and population health analytics, requiring dedicated data governance programmes alongside system implementation.

6. CONCLUSION

Well-implemented EHR systems with integrated clinical decision support generate measurable improvements in patient safety, guideline adherence, and



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

care efficiency, with the strongest evidence for medication safety applications and preventive care reminders. The realisation of these benefits requires careful attention to system usability, workflow integration, alert calibration, and clinician training. For Uzbekistan, the development of a national EHR infrastructure based on international interoperability standards, with embedded CDSS functions targeting the highest-burden preventable adverse events, represents a high-return health information technology investment. The Tashkent State Medical University's biomedical informatics capacity is directly relevant to the design, implementation, and evaluation of these systems.

REFERENCES

1. Bates, D. W., & Gawande, A. A. (2003). Improving safety with information technology. *New England Journal of Medicine*, 348(25), 2526–2534. <https://doi.org/10.1056/NEJMSa020847>
2. Blumenthal, D., & Tavenner, M. (2010). The meaningful use regulation for electronic health records. *New England Journal of Medicine*, 363(6), 501–504. <https://doi.org/10.1056/NEJMp1006114>
3. Chaudhry, B., Wang, J., Wu, S., Maglione, M., Mojica, W., Roth, E., & Shekelle, P. G. (2006). Systematic review: Impact of health information technology on quality, efficiency, and costs of medical care. *Annals of Internal Medicine*, 144(10), 742–752. <https://doi.org/10.7326/0003-4819-144-10-200605160-00125>
4. Garg, A. X., Adhikari, N. K. J., McDonald, H., Rosas-Arellano, M. P., Devereaux, P. J., Beyene, J., & Haynes, R. B. (2005). Effects of computerized clinical decision support systems on practitioner performance and patient outcomes. *JAMA*, 293(10), 1223–1238. <https://doi.org/10.1001/jama.293.10.1223>



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

5. Алиджанова, Д. А., & Усманов, С. А. (2017). АМИНОФЕНИЛМАСЛЯННАЯ КИСЛОТА В КОМПЛЕКСНОМ ЛЕЧЕНИИ ВЕГЕТАТИВНЫХ ДИСФУНКЦИЙ У ДЕТЕЙ И ПОДРОСТКОВ. In *ШКОЛА ВМ БЕХТЕРЕВА: ОТ ИСТОКОВ ДО СОВРЕМЕННОСТИ* (pp. 184-184).
6. Усманов, С. А., & Алиджанова, Д. А. (2017). ОПТИМИЗАЦИЯ ТЕРАПИИ СИНДРОМА ВЕГЕТАТИВНЫХ ДИСФУНКЦИЙ У ДЕТЕЙ И ПОДРОСТКОВ. In *Давиденковские чтения* (pp. 361-361).
7. Алиджанова, Д. А., & Усманов, С. А. (2017). Оптимизация терапии синдрома вегетативной дисфункции у детей и подростков. In *Доброхотовские чтения* (pp. 179-180).
8. Алиджанова, Д. А., & Маджидова, Ё. Н. (2018). КЛИНИКО-НЕВРОЛОГИЧЕСКИЕ ОСОБЕННОСТИ И ИММУНОЛОГИЧЕСКИЕ АСПЕКТЫ МИГРЕНИ У ДЕТЕЙ (Обзор литературы). *Журнал теоретической и клинической медицины*, (3), 77-81.
9. Алиджанова, Д. А., Маджидова, Ё. Н., Азимова, Н. М., & Назарова, Ж. А. (2019). Спектр иммунных изменений при первичных головных болях у детей. *Медицина: теория и практика*, 4(S), 44-45.
10. Алиджанова, Д. А., & Кадирова, Р. М. (2026). ОСОБЕННОСТИ ДИСФУНКЦИЙ ВЕГЕТАТИВНОЙ НЕРВНОЙ СИСТЕМЫ У ДЕТЕЙ И ПОДРОСТКОВ ПРИ МИГРЕНИ. *Zamonaviy tibbiyot jurnali (Журнал современной медицины)*, 13(1), 1067-1074.
11. Алиджанова, Д. А. (2026). ОСОБЕННОСТИ СИНДРОМА ВЕГЕТАТИВНОЙ ДИСФУНКЦИИ У ДЕТЕЙ И ПОДРОСТКОВ С САХАРНЫМ ДИАБЕТОМ 1-ТИПА. *ОСНОВЫ МЕДИЦИНЫ*, 1(9), 265-272.



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

12. Алиджанова, Д. А., Усманов, С. А., & Юсупова, Д. М. (2016). Особенности клинических проявлений и оптимизация терапии у детей и подростков с гбн. *Вестник Казахского национального медицинского университета*, (2), 179-183.
13. Kim, O., Madjidova, Y., Abidova, M., Hamidova, N., Abdullaeva, V., & Sattarov, T. (2021). Clinical-Neurological and neurocognitive indicators against the background of neuroprotective therapy in vertebro-basilar insufficiency in patients with symptoms of cerebral venous discirculation. *Annals of the Romanian Society for Cell Biology*, 25(1), 315-323.
14. Каримов, И., & Рустамова, М. (2007). Фалсафа фани тарихи ва назарияси. *Т., ТДПУ*.
15. Ташметова, Г. Т., & Ливерко, И. В. (2020). Хроническая обструктивная болезнь легких в организованных коллективах. *Туберкулез и болезни легких*, 98(6), 36-39.
16. Рустамова, М. Т., Якубов, А. В., & Хамраев, А. А. (2006). Состояние слизистого барьера желудка при тройной терапии омепразолом, кларитромицином и метронидазолом при экспериментальной язве. *Экспериментальная и клиническая гастроэнтерология*, (5), 26-28.
17. Мирахмедова, Х. Т., Исламова, Д. Н., & Рустамова, М. Т. (2017). Современные принципы и алгоритм ранней диагностики псориатического артрита: научное издание. *Бюллетень Ассоциации врачей Узбекистана* N, 3, 53-58.
18. Рустамова, М. Т., Зокирхўжаев, Ш. Я., Паттахова, М. Х., Жалолов, Н. Н., & Муталов, С. Б. (2023). Сурункали касалликлари мавжуд беморларда covid–19 кечиши.



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

19. Рустамова, М. Т. (1994). Распространенность и особенности клинического течения хронического бронхита в южном Приаралье. *Дис. докт. мед. наук. Ташкент.*
20. Рахматуллаева, Г. К., Хамраев, А. А., Шукурова, Ф., & Парпибаева, Д. А. (2019). Оценка эффективности действия некоторых ингибиторов протонной помпы, цитопротекторов и их комбинаций на показатели синтеза окиси азота в слизистой ткани желудка при индометациновой гастропатии.
21. Хаджиматова, И., Каримов, М., & Эшмурзаева, А. (2026). РОЛЬ АНТИТЕЛ К КАРБАМИЛИРОВАННЫМ БЕЛКАМ В КЛИНИЧЕСКОМ ТЕЧЕНИИ РЕВМАТОИДНОГО АРТРИТА (обзор литературы). *Медицина и спорт*, (1), 74-78.
22. Xadjimatova IX, K. M. S. (2026). ANTIOKSIDANTLAR QABUL QILAYOTGAN REVMATOID ARTRIT BILAN OG'RIGAN BEMORLARDA MATRIKS METALLOP ROTE I NAZ A 9 DARAJASINI TADQIQ ETISH.
23. Karimov, M. S., & Khadjimatova, I. X. (2025). Metabolic Changes in Acute Rheumatic Fever.
24. Хаджиматова, И. Х., & Каримов, М. Ш. (2025). КЛИНИЧЕСКИЕ ОСОБЕННОСТИ РЕВМАТИЗМА ПРИ МЕТАБОЛИЧЕСКОМ СИНДРОМЕ.
25. Xadjimatova, I. X. (2025). STUDY OF CLINICAL MANIFESTATIONS OF RHEUMATOID ARTHRITIS IN PATIENTS WITH METABOLIC SYNDROME.
26. Хаджиматова, И. Х., & Каримов, М. Ш. (2025). РОЛЬ МАТРИКСНОЙ МЕТАЛЛОПРОТЕИНАЗЫ-9 И ПЕЧЁНОЧНЫХ ФЕРМЕНТОВ ПРИ



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

-
- РЕВМАТОИДНОМ АРТРИТЕ. *Журнал гуманитарных и естественных наук*, (22 [2]), 92-95.
27. Шакирович, К. М. Р., & Хаджиматова, И. Х. (2025). ДИАГНОСТИЧЕСКОЕ ЗНАЧЕНИЕ ММП-9 В НАРУШЕНИЯХ ПЕЧЁНОЧНОЙ ФУНКЦИИ У ПАЦИЕНТОВ С РЕВМАТОИДНЫМ АРТРИТОМ. *Medical journal of Uzbekistan*, 1(2), 188-193.
 28. Hamidullayevna, X. I., & Shakirovich, K. M. (2025). РОЛЬ МАТРИКСНОЙ МЕТАЛЛОПРОТЕИНАЗЫ-3 В ПАТОГЕНЕЗЕ И КЛИНИЧЕСКОМ ТЕЧЕНИИ РЕВМАТОИДНОГО АРТРИТА.
 29. Хаджиматова, И. Х., Каримов, М. Ш., & Норматова, К. Ш. (2025). ЗНАЧЕНИЕ ВНЕКЛЕТОЧНЫХ БИОХИМИЧЕСКИХ МАРКЕРОВ ПРИ РЕВМАТОИДНОМ АРТРИТЕ И ИХ ВЛИЯНИЕ НА ФУНКЦИЮ ПЕЧЕНИ. *Журнал гуманитарных и естественных наук*, (21 [2]), 171-174.
 30. Каратаева, Л. А., Каратаева, Н. А., & Тошпулатова, Г. Т. К. (2016). Оценка Причин Скоропостижной Смерти Детей Младшего Возраста. *World science*, 2(3 (7)), 30-33.
 31. Каратаева, Н. А. (2017). Проблема пищевой аллергии. *Апробация*, (1), 80-81.
 32. Намазов, Ф., & Каратаева, Л. А. (2019). К вопросу врожденных пороков сердца у беременных женщин. *ББК 60 С 56*, 150.
 33. Каратаева, Н. А. (2020). Современные аспекты пищевой аллергии. *Medicus*, (3), 51-53.
 34. Хакимова, Г. А., & Каратаева, Л. А. (2024). ПРОГНОЗИРОВАНИЯ КИСТ ЯИЧНИКА В АСПЕКТЕ МОРФОЛОГИИ. *Science and innovation*, 3(Special Issue 44), 204-208.



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

35. Каратаева, Л. А., Габченко, Г. А., Искандаров, А. И., & Саидазизова, С. Д. (2008). Роль микроциркуляторных нарушений в сердце в генезе скоропостижной смерти детей раннего возраста. *Мед. журн. Узбекистана*, (2), 63-65.
36. Каратаева, Н. А., Каратаева, Л. А., Юсупова, О. И., & Иноятова, Ш. Ш. К. (2015). Пищевая аллергия (обзор). *Научные исследования*, (1), 126-130.
37. Агзамова, Н. В., & Мавлянова, Н. Т. (2018). ПРИМЕНЕНИЕ ИННОВАЦИОННО-ИНТЕРАКТИВНЫХ МЕТОДОВ ОБУЧЕНИЯ СТУДЕНТОВ ПЕДИАТРИЧЕСКОГО ФАКУЛЬТЕТА ТАШПМИ В ПРЕПОДАВАНИИ КЛИНИЧЕСКОЙ ФАРМАКОЛОГИИ. *ББК 74.026. 848 М 42*, 170.
38. Шерова, З. Н., Агзамова, Н. В., Шаабидова, К. Ш., & Мавлянова, Н. Т. (2018). ОЦЕНКА И АНАЛИЗ ФАРМАКОТЕРАПИИ БОЛЬНЫХ ДЕТЕЙ С ЗАБОЛЕВАНИЯМИ БРОНХОЛЕГОЧНОЙ СИСТЕМЫ. *Интернаука*, (12), 26-27.
39. Шерова, З. Н., Агзамова, Н. В., & Шаабидова, К. Ш. (2018). ИЗУЧЕНИЕ ЭФФЕКТИВНОСТИ И ПЕРЕНОСИМОСТИ АНТИГИСТАМИННОГО ПРЕПАРАТА ЗИРТЕК ПРИ ОБСТРУКТИВНОМ БРОНХИТЕ. *Интернаука*, (12), 24-25.
40. Мухитдинова, М. И., Карабекова, Б. А., & Азизова, Р. А. (2019). ВНЕДРЕНИЕ ИНТЕРАКТИВНЫХ ФОРМ ПЕДАГОГИЧЕСКИХ ТЕХНОЛОГИЙ В ПРОЦЕСС ОБУЧЕНИЯ. *Международный академический вестник*, (5), 14-16.
41. Азизова, Р. А., Карабекова, Б. А., & Мухитдинова, М. И. (2019). BASES OF MODERN CLINICAL-PHARMACOLOGICAL APPROACHES TO



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

-
- EFFECTIVE AND SAFE PERSONAL PHARMACOTHERAPY. *Новый день в медицине*, (4), 19-22.
42. Даминов, Р. У., Мирзакаримова, Ф. Р., Азизова, Р. А., & Мухитдинова, М. И. (2020). СОВРЕМЕННЫЙ ПОДХОД К ЛЕЧЕНИЮ БОЛЬНЫХ ХРОНИЧЕСКИМ ОБСТРУКТИВНЫМ БРОНХИТОМ С СОПУТСТВУЮЩЕЙ ИБС. *Новый день в медицине*, (1), 188-192.
 43. MADJIDOVA, Y., KHALILOVA, A., SADIKOVA, G., ABDULLAEVA, V., KHAMIDOVA, N., & MUKHITDINOVA, M. (2020). Profile of pro-inflammatory interleukins in symptomatic epilepsy of various etiologies. *International Journal of Pharmaceutical Research* (09752366), 12(1).
 44. Мухитдинова, М. И., Карабекова, Б. А., & Азизова, Р. А. (2017). Влияние пищи на эффективность фармакотерапии. In *Наука и образование: сохраняя прошлое, создаём будущее* (pp. 194-198).
 45. Агзамова, Н. В., Балтаниязова, Г. П., & Усманбекова, Г. У. (2018). ИСПОЛЬЗОВАНИЕ БРОНХОЛИТИЧЕСКОЙ ТЕРАПИИ В ЛЕЧЕНИИ БРОНХИАЛЬНОЙ АСТМЫ. *Интернаука*, (19-1), 28-29.
 46. Ороджова, О. И., Гасанова, С. М., Дубинина, Е. В., & Лотарева, И. Ф. (2016). ПАТРИОТИЗМ, МИЛОСЕРДИЕ И ГУМАНИЗМ КАК ОСНОВА ЛИЧНОСТНОГО РОСТА МЕДИЦИНСКОГО РАБОТНИКА. *ББК 74.58 Р311*, 175.
 47. Мавланов, Э. Р., Хакимжанова, А. С., Мухитдинов, У. Б., & Каратаева, Л. А. (2022). Анализ изучения динамики снижения слуха у детей. *Вестник магистратуры*, (7 (130)), 99-102.
 48. Мухитдинов, У. Б., Хакимжанова, А. С., & Каратаева, Л. А. (2022). Специфика клинических проявлений различных форм хронического



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

-
- гнойного среднего отита в детском возрасте. *Мировая наука*, (6 (63)), 140-145.
49. Jha, A. K., DesRoches, C. M., Kralovec, P. D., & Joshi, M. S. (2010). A progress report on electronic health records in U.S. hospitals. *Health Affairs*, 29(10), 1951–1957. <https://doi.org/10.1377/hlthaff.2010.0502>
 50. Kuperman, G. J., & Gibson, R. F. (2003). Computer physician order entry: Benefits, costs, and issues. *Annals of Internal Medicine*, 139(1), 31–39. <https://doi.org/10.7326/0003-4819-139-1-200307010-00010>
 51. Ministry of Health, Republic of Uzbekistan. (2022). National health information system development strategy. Tashkent.
 52. Office of the National Coordinator for Health Information Technology. (2022). Health IT dashboard: Hospitals and electronic health record adoption. US Department of Health and Human Services.
 53. Osheroff, J. A., Teich, J. M., Middleton, B., Steen, E. B., Wright, A., & Detmer, D. E. (2007). A roadmap for national action on clinical decision support. *Journal of the American Medical Informatics Association*, 14(2), 141–145. <https://doi.org/10.1197/jamia.M2251>
 54. Slight, S. P., Berner, E. S., Galanter, W., Huff, S., Lambert, B. L., Lannon, C., & Bates, D. W. (2015). Meaningful use of electronic health records: Experiences from the field and future opportunities. *JMIR Medical Informatics*, 3(3), e30. <https://doi.org/10.2196/medinform.4457>
 55. Topol, E. J. (2019). High-performance medicine: The convergence of human and artificial intelligence. *Nature Medicine*, 25(1), 44–56. <https://doi.org/10.1038/s41591-018-0300-7>
 56. Vest, J. R., & Gamm, L. D. (2010). Health information exchange: Persistent challenges and new strategies. *Journal of the American Medical Informatics Association*, 17(3), 288–294. <https://doi.org/10.1136/jamia.2010.003673>



Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14th June, 2026

Website: <https://econferencia.com>

-
57. Wang, S. J., Middleton, B., Prosser, L. A., Bardon, C. G., Spurr, C. D., Carchidi, P. J., & Bates, D. W. (2003). A cost-benefit analysis of electronic medical records in primary care. *American Journal of Medicine*, 114(5), 397–403. [https://doi.org/10.1016/S0002-9343\(03\)00057-3](https://doi.org/10.1016/S0002-9343(03)00057-3)
58. Wright, A., Sittig, D. F., Ash, J. S., Feblowitz, J., Meltzer, S., McMullen, C., & Bates, D. W. (2011). Development and evaluation of a comprehensive clinical decision support taxonomy. *Journal of the American Medical Informatics Association*, 18(3), 232–242. <https://doi.org/10.1136/amiajnl-2011-000113>
59. Yen, P. Y., & Bakken, S. (2012). Review of health information technology usability study methodologies. *Journal of the American Medical Informatics Association*, 19(3), 413–422. <https://doi.org/10.1136/amiajnl-2010-000020>