



A Service-Oriented Approach to Electronic Medical Records in Developing Countries

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Agenda

- Introduction
- Definitions
- Review Of Literature
- Solutions
- Considerations
- Conclusion

Introduction

- Technology growth expands HIT
 - Electronic Medical Records (EMR)
- Problems with EMR in developing countries
 - There is no standard framework
 - Medical documentation takes on many forms
 - Infrastructure and resources
- Regardless of its pitfalls, EMR has the potential to play a significant role in the quality of healthcare worldwide

Definitions

- Electronic Medical Record (EMR)
 - A computerized medical record created in an organization that delivers care
 - Part of a local stand-alone health information system that allows storage, retrieval and modification of records

Definitions

- Service-Oriented Architecture (SOA)
 - A flexible set of design principles used during the phases of systems development and integration in computing
 - A system based on a SOA architecture will package functionality as a suite of interoperable services that can be used within multiple separate systems from several business domains

Review Of Literature

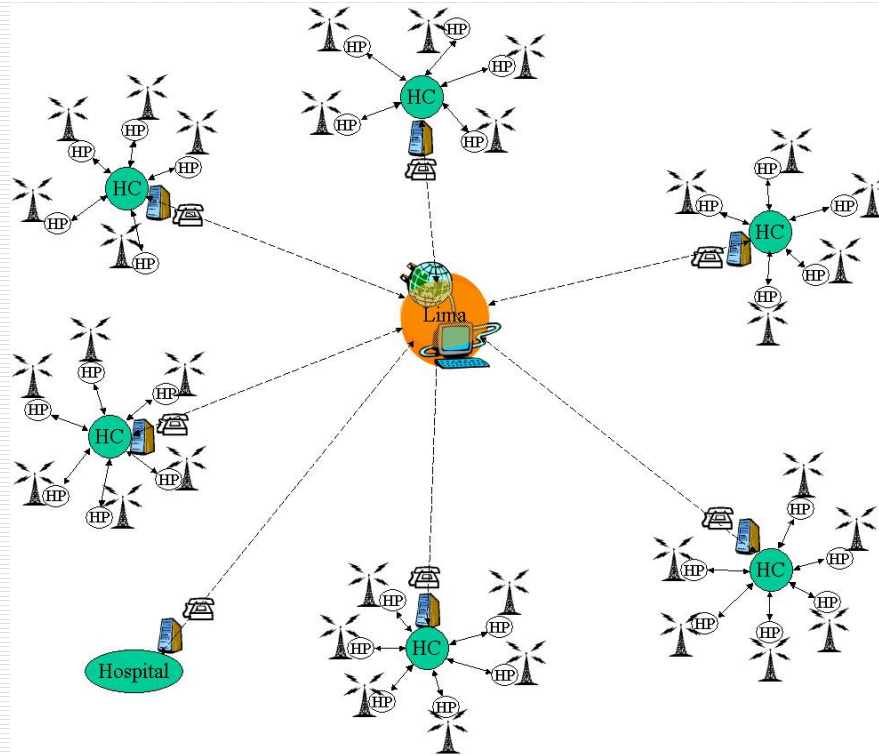
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Solutions

Martinez A., Villarroel V., Seoane J., & del Pozo F. (2004)
Rural telemedicine for primary healthcare in developing countries. *IEEE Technology and Social Magazine*, 23:13–22



Solutions

- Improvements as a result of EMR adaptation
 - Better patient tracking
 - Facilitate the introduction of decision support
 - Contribute to epidemiology research worldwide
- How SOA will help
 - Transfer of data between HCs and the Web-based EMR
 - Transfer of data within health micronet

Solutions

DeRenzi, B., Parikh, T., Mtichell, M., Chemba, M., Schellenberg, D., Lesh, N., et al. (2008). E-imci: improving pediatric health care in low-income countries. *SIGCHI Conference Proceedings on Human Factors in Computing Systems*, 26, 753-762.



Solutions

- Improvements as a result of EMR adaptation
 - A more structured delivery of care
 - A shift from simple visits to long-term care
 - Increased efficiency in data entry
- How SOA will help
 - By converting e-IMCI data into standard medical protocol
 - By allowing for the simple storage/retrieval of EMR information

Considerations

- Security/Confidentiality/Patient Safety
 - Social stigma
- Resources/Infrastructure/Costs
 - Added benefit vs. potential risk
- Human Factors
 - Participatory methods
 - Culture-specific belief and values
 - International perspective



Conclusion



Thank you