PPEPR

The integration of Electronic Patient Record (EPR) systems is at the centre of many of the new regional and national initiatives to integrate clinical processes across department, region, and national levels. Web Service technologies other significant solutions to provide an interoperable communication infrastructure but are unable to support precise definitions for healthcare messages, functionality, and standards, required for making meaningful integration. The lack of interoperability within healthcare standards adds complexity to the initiatives. This heterogeneity exists within two versions of same standard (e.g. HL7), and also between standards (e.g. HL7, openEHR, CEN TC/251 13606). We therefore introduce an integration platform PPEPR (Plug and Play Electronic Patient Records), which is based on the principles of a semantic Service-Oriented Architecture (sSOA). PPEPR solves the problem of interoperability at the semantic level. A key focus of PPEPR is that once patient information is captured, should be available for use across all potential care processes.

Problems Overcome

In many cases special interfaces have had to be developed to allow EPR systems to communicate. Consider the following set of problems:

- **Obsoleteness.** Most hospitals still have obsolete standards or protocols running as their critical applications.
- **Mutability.** Healthcare standards are under constant development and improvements.
- **Disagreement.** IT or healthcare professionals may diverge from the use of healthcare standards intended meanings, thus defeating the purpose of those standards.
- **Narrowness of Solutions.** Healthcare standards formatted in XML solve the integration or interoperability problem at a syntactic level, but domain specific solutions are required to achieve meaningful integration.

A New Technology

PPEPR provides an interoperability solution without imposing any constraint on existing or proposed EPRs. The major advantage of PPEPR approach is the "Plug and Play" feature, which requires minimal configuration during setup. Within scope of PPEPR, EPRs are categorized based on three international healthcare main standards that differ in their overall approach towards an EPR, but share many semantic similarities. These similarities are the linchpin of ontology development and mapping.

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