Health Care Information Infrastructure and Standards

The papers in this session deal with aspects of a common problem which afflicts health care and business development at the same time. The solutions to CPR (Computerized Patient Record) and Standard billing practices across a broad spectrum of service providers are resolved by these researchers and practitioners in a single paradigm, Business Process Reengineering (BPR).

These solutions are facilitated by the partnerships in government initiative and the particular arm of this program related to the US Military's Distance Education and Software development program. Thus, Jernigan and Glaser, discuss the SEPA Methodology (System Engineering Process Activities) and its application to the NIH Cancer Institute in a technical context, while Dr. Khandelwal and Terry Leach discuss the "in house" implications of the same methodology, whereas Len Fogelsonger focuses largely on the organizational and intergovernmental aspect of the partnership in governments' dependence upon BPR.

The problems are similar. Each application must deal with expert knowledge which is both specific and generalized. Thus, Steve Jernigan discovered that their expert used different terms for the same symptoms. Such human elements of the machine processes mean that the heuristic for the acquisition system must be changed to a "Rule of Thumb" type data which reflects practicum knowledge. Thus, the section on Application Requirements Extraction adds to the knowledge base for both domain development as extensibility and system architecture by advocating heterogeneous rather than homogeneous tools.

Dr. Khandelwah and Terry Leach's discussion of "Reengineering of the Patient Flow Process at the Western Sydney Area Health Service" provides insight into the in house problems dealing with legacy in software and hardware as well as the human dimension. A system reengineering which leaves the participants in a state of avoidance is not an unknown reality in business reengineering. Dr. Khandelwah and Terry Leach deal with this problem in a large system which had to continue functioning in both ER and sustained community service. How big is WSAHS? The service is provided for 1.4 million people with a total capacity of 2,000 beds, 10,000 staff and an operating budget of $A900 million per year. This figure will allow you evaluate the closeness of fit to your needs. With the exception of some European hospitals, this model would probably be a fairly close fit for most hospital settings. The model has become the National Model for Australia.

Len Fogelsonger's "Partnerships...Where will they lead Healthcare Informatics" chronicles the process of a partnership in government between the State of Louisiana, the Department of Defense, the Department of Veteran Affairs and the Indian Health Service. This paper discusses the events and national policies which facilitated the informatics behind the US Military Health Service CPR and general records. The emphasis in this setting was on the adherence to standards in a system with an enormous legacy and the impending Y2K compliance and data loss problems. The greater context of Len Fogelsonger's presentation is the G-CPR (Government-Computerized Patient Record) which serves as a baseline organization for setting national and international standards including functional and technical characteristics for the G-CPR. The
partnership element of this process is a formalization of a history of sharing between the DOD (Department of Defense), DVA (Department of Veteran Affairs), IHS (Indian Health Services) and HHS (Health and Human Services). The object of the partnership can be summarized in the following goal, the creation of a common CPR and an entity (partnership) "for the purpose of procuring materials (hardware, software, and services) on an optional basis, in order to collaborate in the areas of design, development, evaluation, quality assurance, integration and implementation of health care services." One of the major points in the discussion is legacy, the history of records, software and hardware which the partnership inherited.

The logical context which links these global projects is the BPR supported by the US Military Health Services. Dr. Khandelwah and Terry Leach divide the BPR into two processes:

Definition and Redesign Phases comprised of:

1) Acquire knowledge of the fundamentals of business process engineering  
2) Obtain an understanding of the new business environment  
3) Develop an appreciation of the technological revolution  
4) Assess the impact of process re-engineering on organisations and personnel  
5) Describe and document the current ("As-is") process using the Service Encounter Mapping Method  
6) Identify the relevant measurements of the current process  
7) Identify change opportunities ("To-Be" process).

This process seems to be the common denominator shared by all businesses, government organisations and software and hardware developers. More technical detail and more business partnership detail can be found in the papers, but this overview is a very cogent plan for dealing with the combined problems of legacy and opportunity facing us at the beginning of the next millenium.

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