US Healthcare Industry at a glance:
> In 2005 expenses were more than 16% of the GDP, and hospital care alone accounted for the largest portion of expenditure, 30.8%.
> In 2000 medical errors in hospitals are suggested as the 3rd leading cause of death in the nation (as many as 98,000 a year).

The Healthcare industry is a complex socio-technical system:
> Comprised of multiple stakeholders driven by incentives which often times are not aligned with one another.
> With compromised ability to deliver to the patient the appropriate care, at the appropriate time, at the appropriate location, and at an adequate cost.

Hospitals find themselves scrambling to cope with:
> A broken system that continuously issues new requirements, shortens available budgets, and demands the latest innovations.
> The absence of a systematic approach that encompasses the whole enterprise, both within and outside immediate boundaries of control.

Motivation / Problem

Key Questions
1) How should hospital enterprise performance be measured?
2) How does hospital enterprise architecture relate to hospital enterprise performance?

Methodology

Phases 1 and 2

Phase 1:
> Performance is a multi-dimensional construct which is often measured in one or two dimensions at most (i.e. financial and operational).
> Hospitals targeted illustrate different typology (academic, community, multi specialty, network, single) and excellence criteria. Sample includes mainly Boston hospitals and specific leading hospitals (Mayo Clinic, @NHS, etc).
> Systematic and iterative use of hybrid research design to determine what is hospital performance and how it should be measured and used in Phase 2

Phase 2:
> In depth study of multi specialty group practice consisting of 3 medical centers and 11 community based primary care group practices with academic ties
> Systematic and iterative use of hybrid research design to characterize different Enterprise Architecture configurations and measure their performance

Hypothesis: Multiple configurations of Enterprise Architecture exist within a single hospital yielding varying degrees of performance

Preliminary Results

Two month exploratory research conducted at two leading hospitals, one in the UK and another in the US:
> Despite very different regulatory and payment environments both sites exhibit similar operational and strategic issues
> Different aspects of Enterprise Architecture prevalent at each site
> Multiple configurations of Enterprise Architecture were present within each single hospital and vary in performance

Remaining Research

Phase 1:
> Finalize analysis and publish findings on exploratory comparison of two leading hospitals (UK and US)
> Finalize interviews and data analysis yielding hospital performance measurement

Phase 2:
> Data mining of patient flow pathway clusters and measurement of performance
> Theoretical sample of polar and trend cases of cluster performance
> In depth study of clusters characterizing individual Enterprise Architecture configurations and determining relation to measured performance
> Publish results

Acknowledgments

This research is or has been funded by the following entities: