

**HSR SYMPOSIUM at Singapore Health and Biomedical Congress**

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**HSR Symposium**

There will be a 1 day HSR symposium during the **Singapore Health and Biomedical Congress** on the **13 Nov 2010**. HSR studies are multi-faceted and explain how social, demographic, financial, organizational factors, system structures and operational processes affect the patient's care in terms of access, cost and outcomes. A multi-disciplinary approach is necessary when we plan and evaluate health services interventions that have evidence of improving the patient outcome. In this 1-day symposium, our speakers from research and practice will share concepts, challenges and research findings in this relevant and growing field. Topics & speakers include:



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Topic	Speaker
The role of patient centered care in improving the care of people with chronic illness in the community .	Prof Alan Pearson – Executive Director, Joanna Briggs Institute, University of Adelaide
Caregiver burden: A community health issue in Singapore.	Assoc Prof Angelique Chan, Duke-NUS Graduate Medical School
How quality data informs judgment in primary care operations .	Ms Grace Chiang – COO NHG Polyclinics
Challenges in operational integration of care with external partners .	Ms Joycelyn Ling – Director (Operations), TTSH
Use of predictive modeling technique to project admission & re-admission risk for resource planning .	Dr Sun Yan – Specialist, Medical informatics and Biostatistics, HSOR
Use of clustering analysis to identify patterns in discharge needs of patients .	Mr Teow Kiok Liang, Operations Research Specialist, HSOR
Measuring event rates & reduction in event rates in HSR.	Prof Cheung Yin Bun – Head Biostatistics, SCRI
Assessment of health related quality-of-life in clinical research .	Dr Luo Nan – Research Fellow, NUHS
Addressing selection bias in outcomes research .	Ms Tan Woan Shin, Senior Research Analyst, HSOR
What works best for whom? - Searching for better health care decisions through Comparative Effectiveness Research.	Dr Joseph Molina – Senior Research Analyst, HSOR

**Can administrative database be used as a substitute for medical records in health services research studies? – A study on comparing the burden of comorbidities.**

**Administrative database and medical records**

Traditionally, researchers collect data for research by reviewing the medical records of patients who were discharged from hospitals. This process is both time-consuming and resource-intensive. Increasingly, health services researchers are making use of the information in administrative databases for outcomes research to assist hospital administrators and clinicians better understand their patients. Hospitals capture information in their administrative databases of each episode of care that was provided to both inpatients and outpatients. The information is mainly used for billing purposes, as well as for the hospitals to keep track of the type of patients who passed through their doors. Using information from administrative databases is very attractive as this allows researchers to gain access to and study thousands of episodes of care rapidly.

**Case study: Assessing burden of co-morbidity**

The question is 'Can administrative database be used as a substitute for medical records?' To answer this we wanted to assess the burden of comorbidities in hospitals by comparing the administrative database with that of the medical records. The administrative database included information on the principal and secondary diagnoses of patients who were hospitalized. This information was used to determine the casemix of the hospital and was related to the funding that the hospital received. The secondary diagnoses appeared to be a good alternative for comorbidities, a piece of information that is important for risk-adjustment. We need to risk adjust to take into account the poorer outcome of a patient with existing illnesses compared to someone without co-existing illnesses.

A comparison of the secondary diagnoses with comorbidities obtained from a review of medical records was done. A total of 30 comorbidities were extracted from both sources of data. Statistical analyses using kappa statistics (range from 0=no agreement to 1=total agreement) were performed to compare the agreement, taking the information from medical records review as the "gold standard".

**Results of study**

The prevalence rates of all comorbidities derived from medical charts were higher than that obtained from routine administrative databases except for diabetes with complications, coagulopathy, deficiency anemias, weight loss, blood loss anemia, and paralysis. There was a wide variation in the agreement, with kappa statistics ranging from 0.01 to 0.78. The comorbidities that showed good agreement were diabetes mellitus (uncomplicated and complicated), metastatic cancer, chronic pulmonary disease, lymphoma and alcohol abuse.

The discordance between both data sources could be explained by examining the purpose for which the information was collected. Pre-existing conditions were documented in medical charts to assist clinicians in clinical care decisions during the stay. However, secondary diagnoses codes in the administrative database do not differentiate between pre-existing conditions or complications that occurred during the hospitalization. It will include conditions and complications that have an impact on utilization of resources during hospital stay, and exclude pre-existing conditions that are well-controlled but may have an impact on patient outcome.

**Chong Wai Fung, BN, MBA**

Wai Fung worked as a Critical Care nurse before joining NHG as a program coordinator for respiratory disease management programmes. Now a Senior Analyst with HSOR, she works with clinicians to design and plan health services research projects, and manages them from data collection, analysis, interpretation and presentation of findings.

