(Mini-Mental State Examination [MMSE]) is equivocal in literature. To examine the association between them, we use longitudinal data on MMSE and CESD and causal inference to illustrate the relationship between two health outcomes. **METHODS:** Data were obtained from the Hispanic Established Populations for Epidemiologic Studies of the Elderly. Participants included 3050 noninstitutionalized Mexican Americans aged 65 and older followed from 1993-2001. Cognitive function and depressive symptoms were assessed using the MMSE and CESD at baseline and at 2, 5, and 7 years of follow-up. Independent variables were sociodemographics, CESD, medical conditions. Marginal structural causal models were employed to evaluate the extent to which cognitive function depend not only on depressive symptoms measured at a single point in time but also on an individual's entire depressive symptoms history. **RESULTS:** our results indicate that if intervention to reduce 1 points of depressive symptoms were made at two years prior to assessing cognitive function, they would result in average improvement in cognitive function of 0.11, 95% CI [0.05, 0.16],P<.0001. **CONCLUSIONS:** The results suggest that health intervention of depressive symptoms would be useful in prevention of cognitive impair.

PRM17
METHODS FOR EVALUATING THE EFFECT MODIFICATION IN THE OBSERVATIONAL STUDIES: A RETROSPECTIVE ANALYSIS ON THE IMPACT OF SIMVASTATINA AND EZETIMIBE AND STATINS ON ACUTE MYOCARDIAL INFARCTION

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OBJECTIVES: Fundamental potential weaknesses of observational studies are:bias and effect modification. In this situation, computing an overall estimate of association is misleading. The aim was to compare a traditional multivariable-adjusted model with a propensity score (PS) model and a cluster analysis (CA) model, in estimating the association between type of lipid modifying agent and hospitalization for Acute Myocardial Infarction (AMI). **METHODS:** The Health Register of Emilia-Romagna (Italy; more than 10 Million records; 4.4 Milion Inhabitants) was used to select between January 1st, 2006 and December 31st, 2011 Statins and Simvastatin and Ezetimibe (SE) naïve users. A PS was constructed, predicting treatment assignment from age, gender, use of diabetic agents, different pharmacologic agents, comorbidity level and utilization of outpatient services. For analysis' purpose, the effect of the treatment on the risk of IMA was measured by estimates of hazard rations (HR) in different fashions using: multivariable Cox regression model (CRM), CRM adjusted for the PS, CRM model within each cluster identified by a K-means method. **RESULTS:** Over 2,6 Mil inhabitants (+40 years) 57,902 (92.2%) patients were naïve statin users and 4,904 (7.8%) were SE users. Compared with Statins, the risk of IMA for SE resulted similar in the adjusted CRM and in the propensity CRM (HR=1.47 and HR=1.49 respectively). While the CRMs performed within each cluster yielded different treatment effect estimates (HR=2.39 for Cluster 1; HR=1.36 for Cluster 2; 1.37 for Cluster 3). **CONCLUSIONS:** The CA allowed to identify specific subgroups of patients, with homogeneous risk features. The CRM within each cluster yielded different treatment effect estimates that might suggest the presence of unmeasured confounding. In that case, traditional regression model and PS developed using administrative data do not necessarily balance patient characteristics contained in clinical data. Choice among different approaches for investigating effect modification should be sensitive to the circumstances of the data analysis in applying observational studies.

PRM18
MULTI-CRITERIA DECISION ANALYSIS IN ONCOLOGY: AN OVERVIEW

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OBJECTIVES: Diagnosis, treatment, and management decisions in oncology can be particularly difficult, involving a complex web of diagnostic and therapeutic uncertainties, patients' preferences and value, as well as costs. These decisions involve trade-offs between possible benefits and harms. There is growing interest in the development and application of alternative decision-making frameworks within oncology, including multi-criteria decision analysis (MCDA). Even though the literature includes several reviews on MCDA methods, applications of MCDA in oncology are lacking. This study sought to discuss the rationale for using MCDA in oncology. In this context, the following research question emerged: How can MCDA be used to develop a clinical decision support tool in oncology? **METHODS:** This study surveyed several applications of MCDA in the field of oncology. In particular, the study reviewed key contributions addressing screening and treatment decision-making in this area. It proposed research opportunities in the context of oncology, and presented a hypothetical scenario to show how MCDA could be applied in oncology. **RESULTS:** The literature review identified eight studies. Five studies examined decision making for cancer screening. Four studies demonstrated *applicability* and acceptability of the Analytic Hierarchy Process (AHP) as a means to involve patients in oncology decisions and translate evidence into clinical practice. The study showed that a wide range of MCDA methods exist; each has its strengths and weaknesses. Choosing the appropriate method vary depending on the source and nature of information used to inform decision-making. **CONCLUSIONS:** Given recent policy movements toward evidence-based decisions, multidisciplinary teams, and shared decision-making, the field of oncology will continuously seek ways to make comprehensive and transparent decisions. MCDA appears to be a promising tool to assist clinical decision-making in oncology and help assess trade-offs regarding preferences. Nonetheless, field-testing is desirable before MCDA becomes an established decision-making tool in oncology.

PRM19
A COMPARISON OF PROPENSITY SCORES FOR ASSESSING PATIENT REPORTED OUTCOMES: A MONTE CARLO STUDY

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OBJECTIVES: Many medical and epidemiological research studies are based on observational data. In this study, we compare three different propensity scores: unadjusted propensity score (UPS), prognostic propensity score 1(PPS1), and prognostic propensity score 2(PPS2) using the inverse probability weighted (IPW) estimator for assessing patient reported outcomes (PROs) in terms of average treatment effect (ATE) and average treatment effect on the treated (ATT). **METHODS:** We conducted a Monte Carlo simulation study to evaluate these three propensity scores for estimating ATE and ATT in terms of bias, mean squared error (MSE), and coverage probability (CP). **RESULTS:** The simulation results show that PPS1 has the poorest performance compared to UPS and PPS2 in terms of bias, MSE and CP. **CONCLUSIONS:** Based on these simulation results, we recommend using UPS and PP2 for estimating ATE and ATT for patient reported outcomes in practice.

PRM20
BARRIERS IN CONDUCTING RESEARCH IN THE FIELD OF RADIOLOGY: PERCEPTIONS OF HEALTH CARE PROFESSIONALS FROM A DEVELOPING NATION

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OBJECTIVES: To identify proportion of radiology Health care professionals' opinions regarding level of difficulty in conducting research in radiology and to ascertain barriers associated in conducting research activities in field of radiology. **METHODS:** Cross-sectional analytical study was conducted during International Conference organized by Radiological Society of Pakistan in November 2009 at Sheraton Hotel, Karachi. Data were collected using a structured, self-administered questionnaire from participants willing to participate in research registered for Annual Radiology Research Workshop piloted during conference; via non-probability convenience technique. Data were analyzed using SPSS versions 19.0.Means±SD were computed for quantitative and proportions calculated for qualitative variables. Chi square and Fisher Exact tests applied for categorical variables. A p-value of < 0.001 was considered significant. **RESULTS:** Response rate was 76% (n=78/103), 65.4% agreed that conducting research in the field of radiology is difficult. Most of the participants (69.2%) who had not published papers believed that research in radiology is difficult as compared to those who had published a paper (30.8%) (p=0.026). However, age, sex, attending conferences and presenting papers did not significantly influence response of participants. The top three barriers in conducting research in field of radiology were time required to provide clinical services (92.3%), lack of dedicated time for research (91.0%) and diminished income in research (88.5%). Although similar responses were observed among residents and consultants regarding barriers in conducting research, more residents than consultants believed that lack of support from dean (p=0.037) and diminished income in research activities (p=0.003) were significant barriers. **CONCLUSIONS:** Most of the participants' opinion was that conducting research in field of radiology is difficult. Time required providing clinical services, lack of dedicated time for research, diminished income in research activities were identified as most important barriers in conducting research. Similar responses were observed among residents and consultants regarding barriers in conducting research.

PRM21
VIEWS OF HEALTH CARE PROVIDERS ON MEDICAL ERRORS IN KARACHI, PAKISTAN

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OBJECTIVES: Incidence of medical errors is an area of concern for health care providers and policy makers. The large number of preventable errors, risk of litigations, patients' insecurity and lack of confidence in health care provision is a concern globally. In an underdeveloped country like Pakistan, patient safety is an important trepidation as it poses a great cost burden on health care system. Objectives of this cross-sectional analytical study are, to estimate the rate of medical errors and to assess the factors that influence medical error reporting in Pakistan. **METHODS:** Data were collected over period of three months, via self-administered survey questionnaire. 385 participants, including doctors, nurses and paramedics from different private and government hospitals of Karachi were selected by non-probability convenience sampling technique. Questionnaire elicited information about number of errors witnessed and reported, by health care providers and factors that influence error-reporting, after an informed consent. **RESULTS:** According to the preliminary review of data, approximately 90 percent of health care professional believe that medical errors are common. More than 50 percent have witnessed medical errors. 80 percent of the population surveyed has experienced a medical error. Approximately half of the participants believe that medical errors are not often reported in our country. **CONCLUSIONS:** Though a substantial number of the health care professionals in Karachi have ever witnessed or experienced a medical error, majority is of the opinion that not many are reported or disclosed. Improving health care system for patient safety is need of the hour. Both management and health care professionals need to improve error-reporting systems in Pakistan so as to check the cost burden on health care.

RESEARCH ON METHODS – Cost Methods

PRM22
EVALUATING THE RELATIONSHIP BETWEEN BODY MASS INDEX (BMI) OF DIABETIC PATIENTS AND HEALTH CARE COSTS

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OBJECTIVES: Although a number of studies have been conducted to estimate the economic implications of comorbid obesity in diabetic patients, mixed conclu-