OBJECTIVE: Despite enthusiasm for clinical pathways, they are so far to be diffused in not academic hospitals and rigorous evidence to support their benefits in these kind of facilities is limited. Our purpose was to determine if the use of clinical pathways can improve the hospital treatment pattern for heart failure.

METHODS: We performed a multicenter controlled clinical trial with cluster randomization. We tested clinical pathways in 9 community hospitals in Italy. Hospitals were assigned to continue conventional management (n = 4) or implement clinical pathway (n = 5), which consisted of a combination of patient education, appropriate use of practice guidelines, appropriate consultation and supplies of drugs and ancillary services. A total of 429 patients (214 cases and 215 controls) with heart failure presenting to the emergency department at one of the participating institutions between October 1st 2003 and September 30th 2004 were enrolled.

RESULTS: Control and intervention groups had similar demographics and heart failure severity profiles. The intervention group showed a higher compliance to international guidelines for the treatment of heart failure. We observed in clinical pathways' group a significant improvement in the appropriate use of ACE inhibitors (57.94% vs. 40.00%; p = 0.002), anti-coagulants (58.88% vs. 14.88%; p = 0.001), beta-blockers (46.73% vs. 10.23%; p = 0.001), digitalis (66.36% vs. 48.84%; p = 0.002), heparin (50.00% vs. 19.07%; p = 0.001), nitro-derivates (33.18% vs. 24.19%; p = 0.039) and vasodilators (39.25% vs. 3.26%; p = 0.0001). We did not observe any differences in the use of diuretics (95.33% vs. 95.81%; p = 0.806) and antplateletes drugs (31.78% vs. 37.67%; p = 0.237).

CONCLUSIONS: The overall purpose of clinical pathways is to improve the process of care by providing a mechanism to coordinate care and to reduce fragmentation. In our study, the implementation of clinical pathways improved the hospital treatment pattern for heart failure. This suggests that clinical pathways have a positive impact on the quality of care.

CARDIOVASCULAR DISEASE—Coronary Artery Disease

HEALTH AND ECONOMIC BURDEN OF POOR MEDICATION ADHERENCE IN THE UNITED STATES


1Innovus Research, Inc, Medford, MA, USA; 2Harvard School of Public Health & Innovus Research, Inc, Boston, MA, USA; 3Sanofi-Aventis US Pharma, Bridgewater, NJ, USA; 4Harvard University, Boston, MA, USA

OBJECTIVE: Although it is known that poor medication adherence is a pervasive problem, consequences for the US health care system are not well understood. Our objective was to generate quantitative estimates of the health and economic burden of poor medication adherence. METHODS: We used modeling techniques and data from the published literature to generate annual estimates of coronary heart disease (CHD) deaths and losses in net economic benefit attributable to poor adherence with chronic medications in the US. For CHD mortality, we quantified the extent to which poor adherence to antihypertensive, cholesterol-lowering, and hypoglycemic medications contributes to CHD deaths. We quantified losses in net economic benefit attributable to poor adherence in terms of forgone medical cost offsets and lost QALYs, taking into account also the counter influence of pharmacy costs avoided because poorly adherent patients fill fewer prescriptions. We assumed that 50% of patients are poorly adherent (either discontinuing therapy or not complying with recommended dosing), that the average therapy would have a cost-effectiveness ratio of $50,000/QALY under full adherence, and that QALYs are valued at $100,000 in the US (as assumed in a recent Institute of Medicine report on the cost of the uninsured). RESULTS: We estimate that 37,000 CHD deaths annually (approximately 8% of all CHD mortality in the US) are attributable to poor adherence with antihypertensive, cholesterol-lowering, and hypoglycemic medications. We further estimate that losses in net economic benefit attributable to poor adherence with all chronic medications amount to $138.5 billion annually (2003 USD), including $51.9 billion in forgone medical cost offsets and $242.3 billion in lost QALYs, counterbalanced by $155.8 billion in avoided costs of prescription drugs. These findings are sensitive to assumptions regarding the perversiveness of poor medication adherence. CONCLUSIONS: The health and economic consequences of poor medication adherence in the US are substantial.

EVALUATING THE DIAGNOSTIC VALIDITY OF ADMINISTRATIVE CLAIMS DATA FOR COMMON CHRONIC DISEASES

Yu YF, Bulano MF, Willey VJ

HealthCore, Inc, Wilmington, DE, USA

OBJECTIVE: Numerous health outcomes research studies utilize health plan administrative claims data to identify various disease states. However, limited studies have evaluated the diagnostic validity of these data sources for this purpose. This study was conducted to evaluate the concordance between claims-based identification rules and medical records (MR) for coronary heart disease (CHD), diabetes, and obesity. METHODS: A random sample of patients on statin therapy from a West Coast health plan with benefit eligibility from January 1, 2002 to July 31, 2004 was identified via administrative claims data. All diseases in these patients were identified using medical claims. MR were utilized as the "gold-standard" and were abstracted by trained MR reviewers using a standardized abstraction form over the eligibility date range. Sensitivity/specificity and kappa coefficients were calculated to examine the validity of claims and the agreement between the two data sources, respectively. RESULTS: A total of 531 patient MR were abstracted (15% CHD, 21% diabetes, and 23% obesity via MR). Diabetes had the highest sensitivity at 96%, followed by CHD and obesity at 78% and 18%, respectively. However, obesity demonstrated the highest specificity (97%), with diabetes at 93%, and CHD at 87%. Agreement between claims data and MR was good for diabetes (kappa = 0.82, 95% CI = 0.77–0.88), moderate for CHD (kappa = 0.53, 95% CI = 0.44–0.62), and poor for obesity (kappa = 0.20, 95% CI = 0.11–0.29). CONCLUSION: In our study, administrative claims data were found to have acceptable sensitivity, specificity and agreement for diabetes and CHD. These data suggest that claims data are a viable data source for health outcomes research for those disease states. For less/poorly coded conditions such as obesity, medical records (combined with administrative claims data) may be a more valid data source.