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### Title

What is the concordance between patient self-report and medical record as a data source for medication use?

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### Authors

Tisnado, D  
Chen, WP  
Liu, HH  
[et al.](#)

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There were no differences in any of the 5 subscales on the MCQ or the MAQ's Overall, Symptom, or Activity subscales. Patients in the PH intervention group had improved MAQ Emotion ( $p = .04$ ) and Environment scores ( $p = .03$ ). There were also no differences in patients' satisfaction with their physicians or pharmacists, medication compliance, emergency room visits (1.1/patient, 0.2 RAD-specific), hospitalizations (0.5/patient, 0.2 RAD-specific), or total charges (\$6,261/patient). Physicians viewed guidelines as helpful reviews but reinforced "cookbook medicine" to lower health care costs.

**CONCLUSION:** Computer delivery of RAD care suggestions to primary care physicians and/or outpatient pharmacists did not improve patients' subjective or objective outcomes. Effective interventions will require enhancing the message (e.g., with symptom information) or its delivery (e.g., requiring responses) or providers' attitudes toward computers and guidelines suggesting how they should provide care.

**WHAT IS THE CONCORDANCE BETWEEN PATIENT SELF-REPORT AND MEDICAL RECORD AS A DATA SOURCE FOR MEDICATION USE?** *D. Tisnado*<sup>1</sup>, W.P. Chen<sup>1</sup>, H.H. Liu<sup>1</sup>, J. Adams<sup>2</sup>, C. Damberg<sup>3</sup>, D. Carlisle<sup>1</sup>, C.M. Mangione<sup>1</sup>, K.L. Kahn<sup>1</sup>; <sup>1</sup>UCLA Dept of Medicine, Los Angeles, CA.; <sup>2</sup>RAND, Santa Monica, CA; <sup>3</sup>PBGH, San Francisco, CA (Tracking ID #52160)

**BACKGROUND:** Medical record data may be considered the preferred data source for treatments received by patients (pts), but review is costly and often infeasible. In lieu of medical record data, pt self-report is often used, but questions arise about the completeness and validity of these data for evaluating the quality of care.

**METHODS:** As part of the UCLA/PBGH Physician Value Check Validation Study, we examined medication (med) data collected using both pt survey and medical record (MR) abstraction for pts with: diabetes, ischemic heart disease, asthma or COPD, or chronic low back pain, from 3 West Coast states. We surveyed 3656 patient from 48 participating medical organizations (response rate 63%). The mailed, self-administered survey queried pts about utilization, health status, and process of care over a 2-year time window, as well as current prescription med use. MRs for pts with survey data were reviewed and abstracted by trained nurses to collect data from the same time window. We evaluated concordance between the 2 data sources for the following prescription med categories: lipid-lowering meds including statins, antidepressants, ACE inhibitors for 1270 pts; sulfonylureas for 404 pts with diabetes; beta blockers for 338 pts with heart disease; and inhaled corticosteroids for 338 pts with asthma or COPD, using the McNemar's Chi Square test, Kappa statistic, and the Sensitivity and Specificity of the self-report (using the MR as the gold standard). We compared levels of concordance by age (<50 vs 50–64 vs >64), race/ethnicity (non-Hispanic white vs other), education ( $\leq 12$  years vs >12 years) and annual income ( $\leq \$30K$  vs >\$30K).

**RESULTS:** Using data from pts with both survey and MR review, we analyzed a subset of data for pts with at least one visit to a clinician during the two-year study window ( $n = 1270$ ). The % of pts who used a med according to both data sources ranged from 11% for antidepressants among all pts to 44% for sulfonylureas among diabetic pts. Kappa statistics ranged from 0.57 for anti-depressants to 0.76 for beta-blockers indicating fair to good agreement between data sources beyond what would be expected by chance alone. Sensitivity ranged from 51% for anti-depressants to 78% for beta-blocker use. Specificity ranged from 88% for sulfonylurea use to 98% for anti-depressant use. Concordance between data sources varied by patient age, race/ethnicity, education and income, with lower levels of concordance associated with older age group, non-white race/ethnicity, and lower education and income\* levels.

**CONCLUSION:** Reported rates of med use vary as a function of data source with concordance between data sources varying by patient characteristics. Quality of care scores may be affected. \*  $p < .05$  for Test of Equal Kappa coefficients.

**OUTPATIENT UTILIZATION AMONG CHRONICALLY ILL PATIENTS IN MANAGED CARE.** *D. Tisnado*<sup>1</sup>, W.P. Chen<sup>1</sup>, J. Adams<sup>2</sup>, H.H. Liu<sup>1</sup>, C. Damberg<sup>3</sup>, D. Carlisle<sup>1</sup>, C.M. Mangione<sup>1</sup>, K.L. Kahn<sup>1</sup>; <sup>1</sup>UCLA Department of Medicine, Los Angeles, CA; <sup>2</sup>RAND, Santa Monica, CA; <sup>3</sup>PBGH, San Francisco, CA (Tracking ID #52310)

**BACKGROUND:** Although inpatient utilization in managed care organizations has been studied extensively, less is known about outpatient utilization. We studied the number of visits and providers seen by a cohort of chronically ill patients to assess outpatient utilization using claims/encounter data (C/E) and data from medical records (MR).

**METHODS:** As part of the UCLA/PBGH Validation Study, we obtained consent for review of C/E data from 48 (83%) of 58 medical organizations for 63% of 2287 chronically ill patients in 3 West Coast states. 38 medical organizations provided C/E data for these patients for a 24-month window. Medical records for patients with C/E data were reviewed and abstracted by trained nurses. C/E and MR data from 1156 patients from 34 (71%) of 48 consenting medical organizations. We excluded 11 patients with no claims or encounters during the 24-month study period, for a total of 1148 patients.

**RESULTS:** Using data from patients with claims, encounter, and medical record data for the same 24 month window, we analyzed a subset of data for patients with at least one visit to a clinician (i.e., physician or nurse practitioner) ( $n = 1148$ ). Based on C/E and medical record data, the mean number of visits to a clinician during the study window was 23, including 11 visits to a primary care provider (PCP). Visit frequency varied by disease, from a mean of 19 for patients with low back pain to 26 for patients with diabetes. Patients saw a mean of 6 unique providers. We also examined the unique contribution of medical record data as compared with C/E data alone. Over 8% of visits and 3% of clinicians would not have been measured using C/E data alone. Medical record data provided additional information that was not captured by the C/E data for 300 patients (26%). With the addition of medical record data, 4% more patients were noted to have had >1 PCP visit, 4% more heart patients were noted to have had >1 cardiology visit, and 3% more diabetes patients were noted to have had >1 eye exam.

**CONCLUSION:** On average, patients with chronic diseases in managed care on the West Coast had 23 visits to 6 different clinicians in the 2-year study period. Over 26% of patients had one or more visits found by medical record review but not noted in C/E data. Although less expensive and time consuming to obtain and use relative to medical record data, C/E data alone do not capture the complete experience of direct patient care.

**PERSISTENCE OF THE USE OF CARDIOVASCULAR MEDICATIONS: DOES ABILITY TO PAY MATTER?** *J. Tjia*<sup>1</sup>, J. Schwartz<sup>1</sup>; <sup>1</sup>University of Pennsylvania, Philadelphia, PA (Tracking ID #51792)

**BACKGROUND:** Little is known about patients who discontinue antihypertensive or lipid-lowering therapy. We sought to identify factors associated with non-persistence, and how these factors differ for antihypertensive versus lipid-lowering medications.

**METHODS:** We conducted a cross-sectional study from the 1998 National Health Interview Survey (NHIS), a population-based survey of households in the United States. Subjects were asked whether they had ever received a prescription for blood pressure or cholesterol lowering medication, whether they were currently taking the medication, and whether during the past 12 months there was any time when they could not afford their prescription medications. We used bivariate and multivariate analyses to identify risk factors for non-persistence of medication therapy.

**RESULTS:** Of 5,297 adults who received a prescription for blood pressure treatment, overall 13% stopped medication use. Discontinuation differed across age groups (<65 yo vs >65 yo: 17.9% vs 7.7%;  $p < 0.001$ ) and health insurance coverage (coverage vs no coverage: 36.3% vs 11.5%;  $p < 0.001$ ). Of the 1,731 adults who used cholesterol-lowering medications, overall 23% stopped medication use. In addition to age and health insurance, annual income was also associated with differences in discontinuation of cholesterol therapy (>\$20,000 vs <\$20,000: 27% vs 21%;  $p = 0.01$ ). Overall, 7% reported they could not afford their medication in the past 12 months. Among subjects who discontinued use without the consent of their physician, the strongest independent predictors of discontinuance were having a decline in health status over past 12 months (odds ratio [OR] 2.09; 95% confidence interval [95% CI], 1.27–3.42), inability to afford medications in the past 12 months (OR 1.71; 95% CI, 1.01–2.89), and male sex (OR, 1.61; 95% CI, 1.19–2.18). Having employer-sponsored health insurance (OR 0.60; 95% CI 0.38–0.96), college education (OR 0.49; 95% CI 0.25–0.96) and recent outpatient physician visits (OR 0.65; 95% CI 0.57–0.73) were associated with persistent medication use. **CONCLUSION:** Discontinuation of antihypertensive and lipid-lowering therapy is associated with inability to pay for prescriptions, particularly among certain vulnerable groups. The uninsured and lower income populations are at greater risk of discontinuing therapy due to economic issues, and may ultimately be at greater risk of poor health outcomes as a result.

**SENIORS AND PRESCRIPTION DRUG COSTS—OPPORTUNITIES TO SAVE? A LESSON FROM MEDICARE + CHOICE.** *C. Tseng*<sup>1</sup>, E. Keeler<sup>2</sup>, R.H. Brook<sup>2</sup>, C.M. Mangione<sup>3</sup>; <sup>1</sup>University of California Los Angeles, Los Angeles, CA; <sup>2</sup>RAND, Santa Monica, CA; <sup>3</sup>University of California, Los Angeles, Los Angeles, CA (Tracking ID #52292)

**BACKGROUND:** For the 1 in 6 Medicare beneficiaries who are enrolled in managed care (Medicare + Choice), many have drug coverage that gives them less than \$1,000 each year to pay for out-patient medications. After patients exceed this amount, they must pay the full drug cost and are at risk for using less medications. This study looks at the top medications driving the prescription costs of Medicare beneficiaries enrolled in a leading Medicare + Choice plan and evaluates whether lower cost substitutes are available.

**METHODS:** The sample included all Medicare beneficiaries enrolled in a major Medicare + Choice plan (>100,000) in one large state, who filled at least one prescription in the first half of 2001. The first six months of 2001 pharmacy claims data were used to identify those beneficiaries likely to use up their annual drug benefits and to determine the top medications driving the pharmacy cost for these beneficiaries. These medications were evaluated for availability of generic substitutes and potential replacement with lower cost medications in both same and different therapeutic classes.

**RESULTS:** The proportion of members predicted to exceed their annual outpatient drug benefit before the end of the year ranged from 1 in 4 for a \$750 benefit to 1 in 12 for those with a \$2000 benefit. The top twenty medications driving the pharmacy cost for these beneficiaries were similar across all benefit levels. Fifteen of these medications were for the management of chronic conditions such as hypercholesterolemia, diabetes, depression, hypertension, osteoporosis, and emphysema/asthma. Two other medications were for the treatment of pain and another two drugs were for management of reflux/peptic ulcer disease. A thirty-pill supply for these medications ranged from \$28 to \$340, based on commonly available online pharmacy prices. Only two drugs out of twenty were available in generic form in 2001. Potential cost-savings were possible for many of the medications but only by changing to less expensive medications with different side effect profiles (for example from Cox-2 Inhibitors to Non-Steroidal Anti-Inflammatory medications).

**CONCLUSION:** Medications driving drug costs for these Medicare beneficiaries were mostly for chronic diseases and did not have generic substitutes. Physicians can play an important role in helping Medicare + Choice members make the most of their limited drug benefits by discontinuing unnecessary medications and by helping patients weigh the risk and benefits of using lower cost medications that are also indicated for the management of many of their chronic conditions.

**EFFECT OF LINKAGE OF MEDICAL CARE TO DRUG TREATMENT ON HOSPITALIZATION OF DRUG USERS WITH HIGH VERSUS LOW MEDICAL COMPLEXITY.** *B.J. Turner*<sup>1</sup>, C. Laine<sup>2</sup>, W.W. Hauck<sup>3</sup>; <sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>Annals of Internal Medicine, Philadelphia, PA; <sup>3</sup>Thomas Jefferson University, Philadelphia, PA (Tracking ID #52154)

**BACKGROUND:** Drug abuse is associated with substantial medical morbidity and demand for inpatient care. Improved delivery of medical care for drug users in drug treatment may improve health status and consequently reduce hospitalization. We examined the association of providing medical care onsite or in the same building as a drug treatment clinic on hospitalization of drug users with differing medical complexity.

**METHODS:** We studied drug users enrolled in New York State Medicaid for >10 mos of both 1996 and 1997. We conducted surveys of directors of 125 methadone and/or medically-supervised drug free programs in 1998 regarding about linkage of medical care services in 1996–97. Responses reporting general and HIV medical care onsite or in the same building