15.8% received help with their medications versus 4.8% among those without limitations ($P < 0.001$). Overall, 17% reported a cost-reducing behavior, 3% non-adherence, and 8% financial stress due to drug costs; these behaviors were more common among beneficiaries with functional limitations. In multivariate analyses, beneficiaries with 3+ functional limitations who did not receive help with their medications had higher rates of cost-related non-adherence (OR = 6.06, 95% CI: 1.71-21.51) and financial stress (OR = 4.06, 95% CI: 1.73-9.51) than those without limitations and without help with their medications. Beneficiaries with 3+ functional limitations who received help with their medications were also more likely to experience financial stress (OR = 2.81, 95% CI: 1.13-6.98). However, there were no significant differences in the odds of general non-adherence compared with beneficiaries who did not receive help. **Conclusions:** Beneficiaries with functional limitations frequently report receiving informal support with their medication regimens and cost-related drug use behavior changes. Among beneficiaries with multiple limitations, those receiving assistance were less likely to reduce adherence. Support with self-care activities for beneficiaries with limited functional status could improve adherence and outcomes.

Keywords: Medication Adherence; Functional Limitations

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PS2-19:

Characterizing Primary Care Visits: Explaining Variation in the Evaluation and Management Visit Level

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Background/Aims: Little is known about how physician work affects the categorization of a visit for billing purposes. Wide variation in physician billing practice is well recognized, but most physicians bill legitimately and provide appropriate documentation. We investigated factors that can account for variations in documentation, and thus the coded visit level, in a primarily fee-for-service practice setting. **Methods:** We examined adult established patient primary care visits (CPT = 99211-99215 or level 1-5) in a large multispecialty ambulatory care organization where physician compensation is based on work RVUs associated with visit coding. In 2008-2011, there were 1,506,603 visits by 352,938 unique patients to 382 unique providers. Over 90% of visits were level 3 (57%) or level 4 (34%). Data on all encounters were extracted from the electronic health records to measure scheduled visit length, physician work during and between visits (patient calls and messages, lab/imaging/medication/referral orders, and chart updates), patient case-mix (age, sex, comorbidities) and relationship with the physician (whether own primary care provider (PCP), years with the PCP, visits to the PCP in the past year). Physician specialty and years of practice, clinic site, and year were included in a multi-level random effects model. **Results:** Visits were more likely to be a level 4 (vs. 3) when scheduled for 30min or 40min (vs. 20min) (OR = 2.8 for both). The number of orders (OR = 1.3) and procedures conducted during the visit (OR = 1.2) were positive predictors of level 4 visit. Phone/email contacts with patients (OR = 1.2) and orders before the visit (OR = 1.3) were also positive predictors of level 4 coding. Patient age (OR = 1.01), number of comorbidities (OR = 1.05), own PCP visit (OR = 1.2), number of previous visits to the PCP (OR = 1.02) were positive predictors while longer years with the PCP (OR = 0.98) and female patients (OR = 0.94) were negative predictors of level 4 visits (all $P < 0.01$). None of PCP characteristics was significant. **Conclusions:** Objective measures of PCP work effort, including scheduled appointment length, orders and procedures done during the visit, out-of-office messaging and pre-visit orders, and patient complexity, are associated with higher billing codes. The non-office visit effort may reflect more efficient use of time in the office to accomplish more things.

Keywords: Billing Level; Office Visit; Primary Care

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PS2-20:

Developing New Quality Measures for HIV Care Using the Electronic Medical Record

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Background/Aims: Life expectancy gains among HIV-infected patients have increased emphasis on quality multidisciplinary care. Among HIV-infected patients in Kaiser Permanente (KP), we evaluated new HIV quality of care measures that facilitate preventive services assessment. Services considered were CD4 and viral load (VL) testing, lipid screening, blood pressure (BP) management, and vaccines (influenza, pneumococcal, Hepatitis A/B, and tetanus). **Methods:** We included adult HIV-infected patients (median age 41; IQR 35-49) from four KP regions serving Northern and Southern California, Hawaii, and Oregon, employing KP administrative and electronic medical record (EMR) data. Eligible patients received an HIV diagnosis before 12/31/2009 and had 2+ years of utilization/membership during 1/1/2003-12/31/2010. We calculated two quality indices per service. The Prevention Index (PrI) is the proportion of patient time covered by receipt of a recommended preventive service, relative to the time during which patients were eligible to receive that service. The "target period" is the interval when service coverage is evaluated (e.g., calendar year). During the prior "observation period" of one recommended service interval (e.g., for BP, 12 months pre-coverage period), data are gathered on prior service delivery that inform the target period. The Disease Management Index (DMI) measures deviation of disease indicators from a management goal (e.g., undetectable VL) during the coverage period. Yes/no vaccine indices are based on whether the service was ever delivered. **Results:** 15,950 patients (90% male; 57% white) were analyzed. DMIs indicated mean patient-level control of CD4 and VL counts of >85% across years. Related PrIs indicated approximately 60% of eligible patient time across years was covered by receipt of tests for CD4 and VL. BP indicated similar control and apparent upward trends in BP exam delivery. Flu vaccinations were received by 60%-70% of patients annually and a similar proportion received at least one tetanus vaccination over the study period. Completed vaccination sequences were much lower for pneumococcal (3% of patients), hepatitis B (6%), and hepatitis A (14%), but these estimates are influenced by relatively short periods used to define completion. **Conclusions:** PrI and DMI represent innovative uses of EMR data for measuring HIV care quality. Future research should extend the methods to other healthcare services.

Keywords: HIV; Quality of Care; Prevention

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PS2-30:

Implementing CHES eHealth Breast Cancer Support in Population-Based Care

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Background/Aims: A woman who is newly diagnosed with breast cancer faces immediate informational and social support needs. She must learn about her disease and its treatment, cope with emotional distress, and make decisions about her treatment. To answer the need for information and support, an Interactive Cancer Communication System ("CHES") was developed, validated in several randomized trials, and is now being implemented to provide access to integrated information for decision-making, behavior change, and emotional support. **Methods:** This NIH R01 implementation project offers CHES to all newly-diagnosed breast cancer patients as standard care in two Denver healthcare systems, Kaiser Permanente Colorado (KPCO) and Exempla St. Joseph's Hospital. Through implementation tracking, patient interviews and surveys, and provider surveys, this study is evaluating the real-world feasibility of CHES by