The Hidden Curriculum, Patient Safety, and Ethical Erosion: Exposure to Role Modeling and Residents’ Disclosure of Medical Errors

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Background: Prior research suggests that role models for responding to medical errors are important to trainees and may constitute part of a “hidden curriculum” that may impact attitudes toward disclosure. We measured residents’ exposure to negative and positive role models for responding to medical errors and examined the association between exposure to these role models and residents’ own attitudes and behaviors regarding error disclosure.

Methods: We conducted a multicenter, cross-sectional survey of residents’ attitudes and experiences regarding errors and their exposure to role modeling. We administered an anonymous, electronic questionnaire to 436 residents across surgical and non-surgical residency programs at two, large academic medical centers. The questionnaire asked respondents about: (1) Personal experience with medical errors; (2) Disclosure training; (3) Unprofessional behaviors related to disclosure; (4) Frequency of exposure to role modeling related to disclosure, which included a negative role modeling scale (2 items, score range: 2-8*, Cronbach α=.76) and a positive role modeling scale (3 items, score range: 3-12*, Cronbach α=.92); (5) Attitudes regarding disclosure, which included a disclosure attitudes scale (9 items, score range: 9-36*, Cronbach α=.77); and (6) Demographics. (*Higher scores represent more frequent exposure and more positive attitudes, respectively.) Univariate statistics were used to describe the frequency of exposure to negative and positive role models. Multivariate linear regression was used to assess independent predictors of attitudes regarding disclosure. Multivariate logistic regression was used to assess independent predictors of unprofessional behavior related to disclosure, which was a composite outcome of respondents who reported not disclosing a harmful medical error to the patient, not disclosing a harmful medical error to more senior team members, or attempting to evade responsibility for a medical error. Our primary predictors were disclosure training and exposure to role modeling.

Results: The overall response rate was 59% (259/436). More than 80% of residents reported exposure to positive role modeling related to disclosure; while more than 50% of residents reported exposure to negative role modeling. Independent predictors of attitudes regarding disclosure included, training, which had the largest positive effect on attitudes and, negative role modeling, which had the largest negative effect on attitudes (standardized effect estimate, 0.33, P<.001 v. -0.29, P<.001). Positive role modeling had a smaller, positive effect on attitudes (standardized effect estimate, 0.21, P<.001). Only two variables were independently associated with unprofessional behavior related to disclosure. More frequent exposure to negative role modeling was associated with an increased likelihood of unprofessional behavior (OR 1.31, 95% CI 1.02–1.70; P=.03); while more positive attitudes toward disclosure was associated with a decreased likelihood of unprofessional behavior (OR 0.83, 95% CI 0.73–0.94; P=.03).

Conclusions: Reducing exposure to negative role models may increase residents’ likelihood of meeting their ethical obligation to disclose harmful errors to patients. Training residents on how to respond to medical errors is important, but may be insufficient to ensure professional conduct in response to errors. Attention should be paid to identifying and remediating faculty who act as negative role models.
Racial Differences in Glucose Control: A Survey of Patients with Type 2 Diabetes on Coping, Diet Temptations, and Trust in Physicians

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Background: Blacks have a higher prevalence of diabetes and worse clinical outcomes compared to whites. A qualitative study found that compared to well-controlled blacks and whites, poorly-controlled black diabetics were more likely to note barriers to self-care and psychosocial factors as affecting their diabetes control and were less likely to note positive health care experiences. This study quantifies the effects of psychosocial factors on glucose control in an attempt to explain racial disparities in diabetes control.

Methods: We enrolled adult Type 2 diabetics with providers in the University of Pennsylvania Health System (UPHS) and a recent Hemoglobin A1c (HbA1c). Patients were called within one month of their most recent HbA1c and a telephone survey was given to patients wishing to participate. The survey contained demographic and clinical questions and several standardized scales including the Jalowiec Coping Scale (JCS), the Dieter’s Inventory of Eating Temptations-SE (DIET-SE), and the Trust in Physician scale (TIP).

Results: 332 patients (230 blacks, 71 whites, 31 other race) completed the survey. Race significantly correlated with glucose control (Hba1c < 8%), 33.0% of blacks vs 16.9% of whites were poorly controlled (p= 0.023). Analysis of JCS responses showed that a confrontive coping style correlated with poor control in whites (p< 0.001) but was not associated with control in blacks; emotive and evasive coping styles were not associated with control. From the DIET-SE, confidence in resisting social and internal dietary temptations correlated with good glucose control in both blacks and whites (p=0.037 and p=0.082 respectively); high caloric and negative emotion temptations were not associated with control. Scores on the TIP scale did not correlate with glucose control in diabetics of either race. These findings persisted in multivariate models adjusting for age, socio-economic status (education, income, employment, and insurance), duration of diabetes, diabetic medications, complications from diabetes, an interaction term for race and confrontive coping style and possible mediators including self-reported diet and medication adherence.

Conclusions: Findings confirm significant racial differences in glucose control; however, as measured coping styles, response to dietary temptations and trust in physicians did not account for this racial disparity. At this time there is no evidence that interventions to address these issues would reduce disparities in glucose control.
An Exploratory Analysis of Successful Peer Coaches: Our Assumptions About Important Characteristics May Not Be Correct

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Background: The training of lay personnel to provide self-management support is proving effective for chronic diseases such as diabetes. However, little has been published about what, if any, characteristics of lay personnel are associated with effective coaching. We sought to understand what characteristics are associated with successful diabetes peer coaches in an urban low-income U.S. population.

Methods: We carried out a prospective cohort study of diabetic patients from six urban health centers serving a low-income population who participated in a randomized controlled trial to assess the impact of peer health coaching on patient change in glycosylated hemoglobin (HbA1c). The cohort included 25 well-controlled diabetic patients who were trained as peer coaches and 123 poorly controlled diabetic patients who were assigned to coaching. All spoke English or Spanish. We defined level of peer coaching success to be the degree of improvement in patient HbA1c from baseline to 6 months. We used linear regression, to account for clustering by coach, to assess for the association between patient change in HbA1c and baseline coach characteristics of age, gender, number of years with diabetes, body mass index (BMI), HbA1c level, and scores on two previously validated questionnaires composed of Likert-scale items – Perceived Diabetes Self-Management Scale (PDSMS) and Diabetes Distress Scale (DDS). We also used linear regression to evaluate the association between patient-coach concordance of age, gender, ethnicity, and educational level and patient change in HbA1c over 6 months. All dyads were language-concordant.

Results: Average patient change in HbA1c by coach over the 6-month intervention ranged from an increase in HbA1c of 0.7% to a decrease of 2.7%. Higher coach BMI was associated with a greater reduction in patient HbA1c (p=0.01). For example, patients of coaches in the highest BMI tertile had a mean reduction in HbA1c of 1.6% while those with coaches in the lowest BMI tertile reduced their HbA1c by only 0.6%. A lower coach PDSMS score, indicating lower perceived self-management, and a higher DDS score, indicating higher levels of diabetes-associated distress, were both associated with a greater decrease in patient HbA1c (p=0.04 for both associations). Coach age, gender, number of years with diabetes, and baseline HbA1c level did not predict more successful coaching. Patient-coach concordance by gender (60% concordant), ethnicity (63% concordant), and educational level (60% concordant) were not associated with change in patient HbA1c, but age concordance (59% concordant), defined as being no more than 10 years apart in age, was associated with a trend toward greater decrease in patient HbA1c (p= 0.09).

Conclusions: Contrary to our hypothesis, coaches with lower BMI, higher perceived self-management of diabetes, and lower diabetes distress were not more successful in reducing the HbA1c levels of the patients they coached, and in fact they may be less successful. One could hypothesize that those coaches struggling with their own disease management and lifestyle changes may be more open to training and make more empathetic patient connections to prompt improvement in a patient’s self-management. Coach age, gender, years with diabetes, and HbA1c were not important for successful coaching, but patient-coach age concordance may be. These findings can help guide diabetes peer coach selection in future interventions.
Medical Home Recognition and Diabetes Quality of Care In Community Health Centers

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Background: The Affordable Care Act increased funding to community health centers (CHCs) to double the number of newly insured, low-income patients for whom they provide ambulatory care services. The Center for Medicare and Medicaid Innovation and Health Resources and Services Administration (HRSA) have launched programs incentivizing CHCs to transform into patient-centered medical homes (PCMH). These programs measure a PCMH by the assessment tool developed by the National Committee for Quality Assurance (NCQA). At this time, little is known about if and how CHC performance on the NCQA tool is associated with the quality of chronic disease care provided by these clinics.

Methods: CHCs which were members of a Los Angeles County consortium, employed at least one physician and provided health services were invited to participate. Participating organizations completed the NCQA’s 2008 PCMH tool. A NCQA level was assigned to each organization based on a 100-point scale and number of “must-pass” elements passed. Patient sociodemographic information and diabetes clinical data were collected for 50 randomly selected adult diabetic patients from each organization. National Quality Forum diabetes care processes (e.g. Hemoglobin A1c in last 12 months) and intermediate outcomes (e.g A1c<8%) were collected. CHC structural characteristics about each organization were extracted from a public database. Random intercept mixed effects models were conducted using NCQA performance as the independent variable and adjusting for patient- and clinic-level characteristics and clustering within clinics. Predicted probabilities and relative risks were created for each diabetes outcome comparing clinics at higher levels of NCQA recognition to those at the lowest level.

Results: Of the 46 organizations within the consortium, 40 were eligible, and 30 (75%) participated in the study. The structural characteristics of the participating and non-participating organizations were not substantially different. Each of the organizations exceeded the threshold to be recognized by the NCQA as a medical home. Eight (27%) earned the highest Level 3 recognition, three (10%) received Level 2, and 19 (63%) received Level 1. Forty-five patient observations were dropped because of missing values creating a final sample of 1455 patients. For each care process and intermediate outcome, there was a distribution with organizations providing diabetes care below and above established standards from other CHC samples. The relative risks for each of the diabetes care processes and intermediate outcomes comparing the Levels 2 and 3 NCQA level clinics to the Level 1 clinics were non-significant. Sensitivity analyses using score on the 100-point scale and on each of the tool’s 9 domains also produced no significant relationship between NCQA performance and diabetes care.

Conclusions: These analyses indicate that a diabetic patient has a similar probability of receiving a screening test or having a risk factor controlled in CHCs eligible for the highest and lowest NCQA recognition levels. Our findings raise the possibility that implementing the NCQA medical home components may be necessary but not sufficient for improving quality of diabetes care in CHCs. The implications are that the HRSA and Innovation Center programs should consider expanding PCMH transformation beyond just the NCQA tool in order to shape the primary care delivered by CHCs to millions of newly insured Americans.
Perceptions of Readmitted Patients on the Transition from Hospital to Home

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Background: Policymakers and hospital leaders are focused on reducing the risk of hospital readmissions. However, these efforts have had mixed success and have not fully considered the patient perspective on the root causes of readmission. The objective of this study was to describe challenges that patients believe contributed to their need for readmission and to determine whether these challenges vary by socioeconomic status.

Methods: A six-item survey instrument was administered to 1,084 inpatients selected for inclusion if their hospitalization was an unplanned 30-day readmission from home. Surveys were administered at an urban tertiary care academic medical center and an affiliated urban community hospital, both located in West Philadelphia.

Results: 45.5% of readmitted patients reported experiencing challenges during the transition from hospital to home which contributed to readmission. The most common transition challenges encountered by readmitted patients include lack of preparedness for discharge (11.8%), difficulty performing activities of daily living (10.6%), difficulty accessing (5.0%) and adhering to (5.7%) discharge medications and lack of social support (4.7%). Readmitted patients of low socioeconomic status (SES) were significantly more likely than high SES patients to attribute readmission to difficulty understanding and executing discharge instructions (3.6% vs. 1.3%, p=0.01), difficulty accessing (7.2% vs. 4.1%, p=0.04) and adhering to (8.5% vs. 4.6%, p=0.01) discharge medications, lack of social support (7.5% vs. 3.6%, p<0.01), substance abuse (3.9% vs. 0.6%, p<0.01) and lack of basic resources such as food, transportation or telephone (3.6% vs. 1.3%, p=0.01).

Conclusions: Patients face modifiable transition challenges which they believe contributes to illness relapse and readmission. Interventions which are designed to address these challenges and tailored for patient characteristics such as SES may better address the root causes of readmission.
Do Immigrants Subsidize the Health Care of the US-Born Through Medicare?

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Background: The Medicare Trustees forecast that the Hospital Insurance Trust Fund (HITF) will be exhausted by 2024; the HITF funds Medicare Part A (primarily hospitalizations, skilled nursing, and hospice) and partially funds Part C (Medicare Advantage). Immigrants contribute to the HITF through taxes but may withdraw less than the US-born because they are younger and because they are often ineligible to receive Medicare benefits (i.e. they are undocumented or have legally resided in the US for < five years).

Methods: We calculated HITF contributions from and withdrawals by immigrants and the US-born. Using US Census Bureau data from the 2008 Current Population Survey (which represents data from 2007) we calculated the proportion of Medicare tax collections accounted for by immigrants and by US-born individuals. To calculate payroll contributions, we multiplied wage and salary earnings by 2.9% (the rate of payroll taxes that fund Medicare). To calculate taxes paid on social security benefits, we calculated the taxable portion of social security benefits that funds Medicare according to taxation laws and multiplied this number by the federal income tax rate. We made a small adjustment to account for miscellaneous sources of HITF revenue (interest, premiums and other) as reported by the 2008 Medicare Trustees Report (which reflects 2007 events). For this correction, we assumed that immigrant’s share of contributions to miscellaneous revenue was the same as their share of total payroll taxes.

We tabulated HITF withdrawals using nationally representative data from the 2007 Medical Expenditure Panel Survey (MEPS). We first calculated the proportion of hospitalization, home health care, and Medicare Advantage expenditures made on behalf of immigrants and US-born individuals. In order to account for the known underrepresentation of high expenditure Medicare hospitalizations in the MEPS, we used a weighting correction proposed by Zuvekas and Olin (2009). We applied this corrected proportion to total HITF expenditures as reported in the 2008 Medicare Trustees Report. This procedure corrected for underestimates of home health care, Medicare Advantage, and inpatient expenses in the MEPS as well as skilled nursing facility, administration, and other expenses. Finally, for each group, we calculated the overall and per capita subsidies defined as the difference between contributions and withdrawals from the HITF. We used the same process to calculate subsidies provided by citizen and non-citizen immigrants.

Results: In 2007, immigrants made up 12.2% of the U.S. population. They contributed $30.8 billion to the HITF and withdrew $19.1 billion (net subsidy = $11.6 billion). US-born individuals contributed $192.9 billion and withdrew $184.0 billion (net subsidy = $9.0 billion). On average, immigrants provided $305 per capita in subsidies, nearly nine times the per capita subsidy of $35 provided by US-born individuals. All of the net subsidy was accounted for by non-citizen immigrants who contributed $15.3 billion and withdrew $2.6 billion (net subsidy = $12.7 billion or $645 per capita).

Conclusions: In 2007, immigrants withdrew only two dollars worth of care from the HITF for every three dollars they contributed; non-citizen immigrants withdrew only one dollar for every six dollars they contributed. Despite the wide perception that immigrants, in particular non-citizen immigrants, consume healthcare resources, we find evidence that non-citizen immigrants heavily subsidize Medicare.