independently associated with a physician’s lack of awareness of incentive payments. Analyses were performed using Stata statistical software (version 12.0; StataCorp).

Results | In 2007 to 2008, 2545 eligible physicians completed the NAMCS induction survey. The proportion of physicians who received some compensation for quality was 21.5% (95% CI, 18.9%-24.0%) and the proportion for patient satisfaction was 18.7% (95% CI, 16.3%-21.1%). An almost similar percentage of physicians did not know whether they received compensation for quality (16.2% [95% CI, 13.1%-19.2%]) or patient satisfaction (16.0% [95% CI, 13.0%-19.0%]). Physicians who did not know whether their compensation was linked to quality were more likely to practice in an urban setting (adjusted odds ratio [AOR], 2.50 [95% CI, 1.36-4.56]), more likely to practice in a freestanding clinic or urgent care (AOR, 2.01 [95% CI, 1.07-3.78]), and less likely to practice in a community health center (AOR, 0.16 [95% CI, 0.06-0.42]) vs private practice. Physicians who did not know whether their compensation was linked to patient satisfaction were also more likely to practice in an urban setting (AOR, 2.24 [95% CI, 1.30-3.85]) and less likely to practice in a community health center (AOR, 0.17 [95% CI, 0.07-0.42]) vs private practice (Table).

Discussion | In a national survey of physicians, 1 in 6 did not know whether pay-for-performance was incorporated into their compensation. These findings support previous reports from smaller samples showing a lack of awareness about pay-for-performance initiatives. These findings suggest an important mechanism underlining the relative ineffectiveness of financial incentives in changing physician behavior and improving quality of care: physicians may be unaware of these incentives. If payers want pay-for-performance programs to be more effective, they may need to ensure that physicians understand what the incentives are and how they might affect their compensation.

The years of the NAMCS survey used for this study were soon after the implementation of the Physician Quality Reporting System, a program by the Centers for Medicare and Medicaid Services that provides financial incentives for reporting quality measures. Given this proximity, it is unclear whether our findings reflect physician awareness after this program was implemented. Future research should aim to assess physician awareness of incentive compensation given this and other rapidly changing incentive programs.

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HEALTH CARE REFORM
Potential Savings by Reduced CD4 Monitoring in Stable Patients With HIV Receiving Antiretroviral Therapy

The appropriate monitoring of chronic disease conditions offers high-yield opportunities to improve the value of medical care by reducing excess testing. For people living with human immunodeficiency virus (HIV)/AIDS in the United States who are virologically suppressed while receiving antiretroviral treatment (ART), HIV has become a chronic condition.

The 2013 Department of Health and Human Services Guidelines for Adult and Adolescent HIV Care recommend CD4 monitoring every 6 to 12 months “in clinically stable patients with suppressed viral load [no detectable HIV RNA in blood],” although some clinicians perform this test quarterly. Recently published data show that CD4 results in such patients rarely (if ever) influence management. We sought to estimate how reduced CD4 testing frequency in virologically suppressed patients could contribute to savings at the US population level.

Methods | The Centers for Disease Control and Prevention estimates that 28% (336 000) of the 1.2 million people living with HIV/AIDS in the United States are virologically suppressed while receiving ART. Of these, cohort data suggest that 80% (270 000) meet criteria for sustained suppression while receiving stable ART. Human immunodeficiency virus–associated life expectancies in the United States and Europe are estimated to be 22 to 34 years after HIV diagnosis. The CD4 test costs range from $38 to $67 per test, depending on whether CD4% is included. Using these estimates, we examined na-


Table. Projected Costs With Different Strategies of CD4 Monitoring in Routine Care for the Estimated 270 000 HIV-Infected Patients Receiving Suppressive ART in the United States

<table>
<thead>
<tr>
<th>Frequency, mo</th>
<th>CD4 Test Cost</th>
<th>Projected for LE of 22 Years</th>
<th>CD4 Test Cost</th>
<th>Projected for LE of 34 Years</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Annual Costsa</td>
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<td>$38</td>
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<td></td>
<td></td>
<td>$67</td>
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<td>$67</td>
</tr>
<tr>
<td>Every 3</td>
<td>41.0</td>
<td>902.9</td>
<td>1591.9</td>
<td>1395.4</td>
</tr>
<tr>
<td>Every 6th</td>
<td>20.5</td>
<td>451.4</td>
<td>796.0</td>
<td>697.7</td>
</tr>
<tr>
<td>Every 12</td>
<td>10.3</td>
<td>225.7</td>
<td>398.0</td>
<td>348.8</td>
</tr>
</tbody>
</table>

Abbreviations: ART, antiretroviral therapy; HIV, human immunodeficiency virus; LE, life expectancy.

a All costs in US $(millions).

b Assumed current standard of care.
Editor's Note

Directing Resources to Where They Are the Most Needed

Old habits die hard. Since the 1980s, when we first came to understand that CD4 cell depletion is one of the hallmarks of immune deficiency in persons with AIDS, we clinicians have checked the CD4 counts of our stable patients every 3 months (more often for those who were sick or starting new therapy). Our patients (and we) worried from visit to visit whether their CD4 counts (we called them T-cells then) rose or dropped (mostly they dropped), and our spirits rose and fell with their counts.

That was then. Today we have highly effective antiretroviral treatment for human immunodeficiency virus (HIV) and a much better marker of how our patients are doing: the HIV viral load. Patients with undetectable virus in their blood are likely to do well as long as they keep taking their medication. The first sign of trouble is an elevated viral load. If perchance a patient of mine had a major drop in the CD4 count despite having an undetectable viral load, my first thought would be that the CD4 count was in error.

So, if CD4 counts are no longer driving treatment decisions in stable patients who are virally suppressed while receiving antiretroviral treatment, why do we still order these tests? Because it is our habit, and our patients expect it. Although ordering the test likely causes little harm to our patients, the tests are expensive. As demonstrated by Hyle et al, if we would order them at most yearly for our stable virally suppressed patients (instead of every 6 months), we would save $10 million a year in the United States. We could use that money in ways that would likely have a much greater impact on the population of HIV-infected persons, including early HIV detection and linkage to medical care, medication adherence counseling (so that CD4 counts do not drop owing to missed doses), substance abuse treatment, and supportive housing.

Resources are finite. We should always seek to spend them in ways that bring the greatest good. Eliminating unnecessary CD4 counts and providing treatment with more impact is a good way to start.

Mitchell H. Katz, MD

Disclaimer: The views expressed herein are those of the author and not necessarily the views of the County of Los Angeles, California.

Trends in the Earnings of Male and Female Health Care Professionals in the United States, 1987 to 2010

Nearly 40 years after the adoption of the Title IX Amendments of the US Civil Rights Act, women account for almost 50% of US medical students and more than one-third of all physicians. Historically, female physicians have earned considerably less than male physicians, though in the 1990s much of this was attributable to gender differences in specialty choice and hours worked.1 However, more recent data suggest that female physicians currently earn less than male physicians even after adjustment for specialty, practice type, and hours worked.2 Salary differences between men and women currently exist among physician researchers as well.3 This raises questions about whether the gender gap in earnings among US physicians has closed over time, particularly compared with the earnings gap for other health care professionals and workers overall. Comparing earnings of male and female physicians over time is important in assessing the impact of policies to promote gender equality among physicians.

Methods | Using nationally representative data from the March Current Population Survey (CPS) from 1987 to 2010, we estimated trends in the male-female earnings gap among physicians, other health care workers, and workers overall. The CPS has been used to study trends in physician work hours and earnings.4,5 The CPS data are collected monthly and are based on personal and telephone interviews of approximately 60,000 households. The data are deidentified and made publicly available, and thus this study was exempt from institutional board review.

We used self-reported data from the CPS on occupation, hours worked, annual earnings, age, sex, and race. Response rates exceeded 90% across years.5 Physicians were identified based on a self-reported occupation of physician or surgeon. Other health care professionals were identified based on a self-reported occupation of dentist, pharmacist, nurse, physician assistant, or health care and insurance executive. Because the values of earnings reported were capped by the US census to protect identities (eg, the cap was $250,000 in 2010), we analyzed trends in median annual earnings. We analyzed 3 periods (1987-1990, 1996-2000, and 2006-2010) to smooth annual fluctuations in the data. We excluded individuals younger than 35 years to focus on physicians completing residency.6 The CPS does not collect data on physician specialty. Additional limitations of the CPS for studying physician earnings have been noted elsewhere.5

We used median regression analysis to study trends in earnings across occupations, adjusting for age, sex, race, hours worked, and state. We adjusted for hours worked to avoid overstating gender differences in earnings if female physicians work fewer hours. For each occupation, we estimated a pooled regression model of both women and men, with interaction terms between sex and year to estimate sex-specific trends. We predicted earnings holding covariates other than sex and year fixed at their mean values. Dollar values were normalized to 2010 dollars.

Reference


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