HIV Quality Measures and Outcomes: The Next Phase

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(See the HIV/AIDS Major Article by Korthuis et al on pages 233–9.)

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We all celebrate the tremendous strides forward in human immunodeficiency virus (HIV) care that have occurred in recent years. Patients are generally living longer as more achieve and sustain viral suppression. Quality primary care for HIV-infected patients must, of course, include every patient, not just patients generally. Guidelines published by the Infectious Diseases Society of America and the HIV Medicine Association go a long way to address complexities in patient care [1]. Yet, gaps in care quality persist, resulting in disparities in HIV care and mortality.

In this issue of Clinical Infectious Diseases, Korthuis and colleagues [2] address such gaps by studying the intersection of HIV quality of care performance and mortality. The authors clearly demonstrate that among patients who receive a large majority (>80%) of 9 defined quality indicators for HIV care, the risk of mortality is lower than that among those who did not receive all of these essential aspects of HIV primary care. The 9 indicators are receipt of antiretroviral therapy (ART), Pneumocystis jirovecii or Mycobacterium avium complex prophylaxis if indicated, receipt of pneumococcal (ever) and influenza (annual) vaccinations, screening for hyperlipidemia and hepatitis C at appropriate time intervals, and appropriate HIV clinic visits and CD4 count monitoring.

The risk of mortality rises significantly if HIV-infected patients receive <80% of these tests and interventions. The risk increases even more if the patients have current alcohol or illicit drug use or have an elevated Veterans Aging Cohort Study (VACS) score, which indicates increased comorbid conditions along with HIV infection. The work by Korthuis and colleagues rightly addresses the negative role that lack of access to HIV primary care, or greater preventive health and screening measures as specified by the US Preventive Services Task Force, plays in disparities like the ones presented here and reinforces the benefit of greater primary care for HIV-infected patients. This need for greater primary HIV care is echoed in the Affordable Care Act and National HIV/AIDS Strategy calls for greater access to quality HIV care [3–5].

But disparities remain; the likelihood of receiving these measures decreased significantly if the patient had current unhealthy alcohol use or current illicit drug use. Receipt of quality HIV primary care alone, as defined by these quality indicators, is insufficient to prevent mortality. In this study, the association of receipt of these quality indicators and prevention of death was greatly attenuated (no longer statistically significant) if there were current unhealthy alcohol or illicit drug use. Of course, unhealthy behaviors can impact a patient’s life even if the patient is receiving quality care; this is not new knowledge. But this study shows that attention to these behaviors is critical for HIV care if our patients are to enjoy the benefits of ART.

The negative effects of the disparities on mortality among these patients is made even worse as they age and have other comorbidities, as demonstrated by the VACS index. In fact, a patient’s worsening VACS index score is a greater threat than age or substance use. The VACS index takes into account a patient’s degree of anemia, liver fibrosis, renal function, hepatitis C, and immune suppression. Quality HIV primary care must assess for these comorbidities and address them in a comprehensive manner. Quality indicators should be enlarged to include specifically these comorbidities.

Even when a patient receives a great number of these quality-of-care indicators, the authors observe from the data that viral suppression was significantly less among the patients with substance use than among the overall cohort. Maximal and sustained viral suppression has been repeatedly associated with decreased mortality and improved outcomes [6]. This is one of the key reasons the HIV Care Cascade, as originally described by Gardner and colleagues, has viral suppression as the final outcome [7]. Thus, measure-of-care processes, including screening for comorbid diseases such as hepatitis C or even sufficient number of HIV care visits per year, do not necessarily equate with sufficient ART adherence to achieve viral suppression.

The need to make quality indicators more relevant as requisite disease care
changes over time and patients age is often the critical limitation of quality indicators. Getting patients into care and starting ART are essential quality indicators for patients recently diagnosed with HIV or lost to follow-up. However, for well-established patients adherent to their ART regimen and having maximally suppressed virus, these are not useful metrics. Even retention in care (at least 2 HIV care visits per year) may not be a very useful quality of care indicator if a patient has continued anemia, decreased renal function, avascular necrosis, or untreated chronic hepatitis C. As with other chronic diseases, quality indicators need to indicate where there are potential deficiencies in care and where there is success. In this study, most individual indicators had ≥80% performance. Although these results are laudable and indicate quality HIV care during the first year after a patient was identified as HIV-infected within the Veterans Affairs, they do not offer an indication of sustained quality care. Additionally, if physicians know they are being measured on a specific process and outcome measure, they will “perform to the test” [8]. Quality measures can influence practice.

As HIV becomes an even more chronic and lifelong condition, indices of care based solely on the first year after diagnosis are of diminishing relevance to the majority of patients. Our indicators of quality care will have to change with it. Although viral suppression will always be a crucial measure of effective care, is there a better way to measure it, apart from once- or twice-annual measurements? Annual metrics are essentially cross-sectional. But as time goes on, we really want to know if viral suppression is sustained. Further, system-wide metrics may show continued success annually, but the same patients are not necessarily included in the numerator year over year. For example, a cohort may have 80% viral suppression year to year, but the 80% of patients who are viral suppressed changes with each year. Although overall the program may be considered successful, individual patients are likely experiencing difficulties on an intermittent or continual basis. The corollary also is important: Is 80% good enough? It is likely the 20% of patients not achieving viral suppression, or only achieving it intermittently, lead to further viral transmission to uninfected Americans.

Other questions need answering too. Having patients follow-up with their HIV specialist is critical. But how often is this necessary if a patient is virally suppressed without complications and is receiving their requisite primary care? We know that women and men have different care needs. Could our quality indicators better reflect these critical differences?

It is noteworthy that nearly 70% of all patients in the Veterans Affairs cohort did receive at least 80% of these quality indicators. These numbers reflect the distinct advantage of an integrated health-care system with strong primary care [9]. Although not discussed by Korthuis and colleagues, Veterans Affairs uses integrated primary and specialty care, a common electronic health record used by all providers, coordinated pharmacy services, and specialty HIV care. As seen in other such systems, both nationally and internationally, these components of care systems lead to greater receipt of quality elements of primary care [10].

The work by Korthuis and colleagues clearly demonstrates that receipt of a large majority of quality-of-care indicators is associated with lower mortality risk. But that risk is not absolute, and there are many mediating factors. How we measure those mediating factors and draw attention to them will be critical going forward as we better define and measure quality HIV care. We will need improved metrics to do that. But even without improved metrics, paying attention to the metrics we have and their impact on subpopulations, such as patients with active substance use, is critical. And, of course, mortality is the ultimate outcome measure.

Note

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References