Quality Measurement in HIV Testing in Managed Care or Large Health Systems

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Kaiser Permanente and
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• 602 HMOs in US as of July 2007
  • Varies from 1/state (AK, MS, ND, WY) to 49/state (CA)
  • Nearly 1,300 health insurance plans in US (source: AHIP)
• Can vary from non-profit to for-profit
  • Note: Some companies have non-profit plans and for-profit plans, depending sometimes on state law
• In general, data on HIV testing and identifying patients at risk is quite limited
  • Most cite legal reasons for not previously collecting such data
  • No explicit data documenting consistent refusal to pay or specific plan testing rates
  • This will likely change with new HEDIS measures (NCQA)
    – However, HIV testing rates are not yet HEDIS measures
What we can do
What is being done

Nationally
• Reconcile USPSTF and CDC recommendations
  • Most managed care plans follow USPSTF recommendations
• Make HIV testing a HEDIS measure (NCQA, CMS, NQF)
• Public reporting of testing rates
• Public reporting of stage of disease at time of diagnosis
• Reward improvements in HIV testing rates at all levels
• Consideration of all costs of HIV testing and care

Kaiser Permanente
• New HIV testing guidelines (expansion of USPSTF recommendations)
• Continued reporting of testing rates
  • Both interregionally and intra-regionally
• Better identify patients at risk
• Empower patients to seek HIV testing (kp.org)

Ingenix (United Health Group)
• Quality Measures for HIV care but not testing

Veterans Administration
• Studying Testing rates across program
• Changed written informed consent
KP/GHC HIV Demographics

- >18,000 active HIV-infected patients
- Second largest provider of HIV care in the US
- Regional Variation:
  - Totals vary from ~180 members to over >6300
  - Percent Female varies but reflects states we serve (8% to 33%)—rates are steady
- Majority of cases are still Caucasian MSM
  - Rising numbers of Blacks and (especially) Latino
- Just over 200 HIV-infected patients ≤19 years old
- >100,000 total HIV-infected patient years in our system.
- Our HIV population is aging, and (thankfully) not dying. Our mortality is significantly less (1.6%) than the national average (3.4%).
Demographics

Age of Active HIV Cases as Identified by Project Algorithm

1/1/2007 - 12/31/2007

Fig 3. Distribution of HIV cases active anytime during Measurement Period by age
Most regions/clinics employ a multi-disciplinary care team for HIV

- HIV specialist
- Case manager (RN and/or PharmD and/or MA)
- RN and/or PharmD (if not above)
- Social worker
  - (some only have a benefits coordinator)
- Mental health support
- Health Educator
- Regional coordinator for larger regions

Example above:
Goals for KP HIV Quality Improvement Program

Aim for highest quality care possible, attention to viral control and prevention of opportunistic infections and co-morbidities

We should:
- Improve HIV testing and case identification
- Get patients into care and remain in care
- Aim for maximal viral control and improved CD4 counts
- Prevent short and long term toxicities

*These efforts should lead to longer patient survival, greater patient satisfaction and retention in care*
Diagnosing HIV

Testing for HIV among HIV- patients diagnosed with STD

Determining % of new HIV diagnoses who met AIDS criteria (CD4< 200/µL)

Getting Patients Into Care

Time until newly diagnosed KP HIV-infected members receive 1st CD4 count

Care Processes

% of HIV-infected members seen at least twice annually (at least 60 days apart each visit)*

% of HIV-infected members with CD4+ cell count performed at least once every 6 months*

% of HIV-infected members with CD4 <200/µL taking PCP prophylaxis*

% of HIV-infected members with CD4 <200/µL taking HAART (will increase to <350)*

Care Results

% of HIV-infected patients on HAART who have maximal viral control*

% of HIV-infected patients on HAART with appropriate adherence

*--to be HEDIS measure
Diagnosing HIV and Getting Patients into Care
Prenatal Testing Rates: >90% (88-94% of regions reporting)

However, at best, this represents barely over 20% of our KP population tested ever for HIV.

For comparison, VA estimates nationally that <10% of inpatients and <5% of outpatients tested 2005-2006.
HIV Antibody Co-testing in STD+, HIV- Patients

HIV- and diagnosed with ≥1 STD (chlamydia, gonorrhea, primary syphilis, new hepatitis B or new hepatitis C) during the measurement period, % also tested for HIV within a -10 to +90 day window around the STD test date for each STD.

Overall: 7320 out of 13,120 or 55.8% (2005-2006)

HOWEVER, regional variation (from 28.6% to 65.0%)

- Implication is that overall numbers may belie local issues and testing patterns.
HIV Antibody Testing

If no prior negative HBV/HCV test:

9400 out of 23,532 or 39.9% (2005-2006)

Again, regional variation—25.5% to 54.5%

- Implication is that we know who should be tested, but need to put systems in place to ensure that happens
Previously, over 40% overall of established KP patients had CD4 <200/µL at time of diagnosis.

### Early detection

Of members newly identified with HIV, EXCLUDING transfers, percent of patients whose lowest CD4 <200 cells (i.e. AIDS-defining):

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
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<tr>
<td></td>
<td>28.8%</td>
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<tr>
<td>Regional variation</td>
<td>21.2% to 47.6%</td>
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28.8% had CD4 <200/µL at time of diagnosis.

Regional variation: 21.2% to 47.6%
We are testing earlier (2)

Median lowest CD4 among cohort within 90 days of HIV infection diagnosis—\(329/\mu\text{L}\)

Some regional variation: 248 to 427/\(\mu\text{L}\)

- Of note, CD4 at time of diagnosis does not completely correlate with HIV testing rates (for example, highest median CD4 at diagnosis is not region with highest testing rates [Risk behavior issue?])
Initial follow-up

Of members newly identified in KP with HIV, INCLUDING members who transfer into KP, how many have at least one CD4 count measurement within 90 days of HIV identification.

92.2% (2005-2006)* have initial laboratory evaluation within 90 days of being identified HIV+

Example above:
Care Processes and Results
PCP Prophylaxis

% HIV+ patients whose last CD4 cell measurement in the measurement period is < 200 on PCP prophylaxis in the 90 days following the last CD4 measurement.

71.0% met this criteria in 2005-2006

Less regional variation than other measures
Antiretroviral Therapy

Appropriately on HAART

% HIV+ patients with $\geq 2$ CD4 counts $<200$ during the measurement period on a HAART regimen in the 90 days following the last CD4 count

87.3% (2005-2006) met this criteria

Some geographic variation: 72 to 94%
Adherence to Antiretroviral Regimen

Adherence 90% and Adherence 95%

% HIV+ patients on HAART for ≥3 of the 12-month measurement period:

92.8% (2005-2006)

58.2% (2005-2006) had ≥90% adherence

42.9% (2005-2006) had ≥95% adherence
Care Outcomes (1)

Reaching Maximal Viral Control

HIV RNA among HIV+ patients on HAART for ≥3 of the 12-month measurement period:

- 86.1% (2005-2006) <75 at some point during 12 months
- 79.4% (2005-2006) <75 at last viral load
Care Outcomes (2)

- Median levels now in the high 400’s
- >60% have CD4 counts over 350

![Graph showing percent of active patients in KPNC HIV Registry with CD4 counts <200 or ≥500/µL over time from June 2003 to December 2008. The graph indicates an increasing trend in the percentage meeting the criteria, with peak values of 51.8% in December 2008.]
Next Steps with Quality Measures

• Determine which areas would best benefit from quality improvement efforts
  • Ex. PCP prophylaxis and HIV Antibody testing
• Repeat and track measures over time
• Evaluate interregional and potential intraregional differences
  • Explore the potential for different demographics and HIV risk behaviors as explanations
• Reconcile our measures with eventual NCQA/HRSA/AMA measures
  • Add Hepatitis B and C screening and Hepatitis B vaccination
• Develop national NCQA HIV testing quality measures
• Develop guidelines for HIV counseling and prevention