



## Survey Findings: For Doctors Treating HIV/AIDS, Experience Tops Specialty Training

Study of the impact of medical workforce composition and organization on the care of people with HIV

### SUMMARY

From 1996 to 1999, researchers at [Harvard Medical School](#) conducted a study of how the organization, financing and characteristics of medical providers affect the quality and the costs of care received by people with HIV/AIDS.

The study supplemented a detailed 1996 federally funded survey of 2,864 HIV patients by obtaining data from the patients' physicians, other health care providers, and treating organizations.

This study consisted of surveys of clinicians and health care sites where patients in the larger study had been treated.

### Key Findings

The investigators reported these preliminary findings:

- Physicians' HIV-specific knowledge was more strongly associated with their experience with HIV patients (i.e., caseload) than with any specialty training in infectious disease. This suggests that generalist physicians can develop specialized knowledge in HIV care through clinical experience and self-education, the investigators say.
- Most physicians say they would prescribe protease inhibitors only if they judged that the patient was likely to adhere to a complicated medication regime or schedule. Investigators said this practice raises concerns, given the difficulty physicians have in accurately predicting a patient's future adherence to a medication regime.

### Funding

The Robert Wood Johnson Foundation (RWJF) supported this project through a grant of \$472,096.

## THE PROBLEM

Effective treatment of chronic conditions often requires extensive coordination of a varied set of primary care physicians, nurses, and medical specialists and a broad range of formal and informal nonmedical services. While providers differ greatly with respect to the way they are organized and the financial arrangements they have with patients and insurers, very little is known about how different ways of organizing and financing care affects the activities of providers and the quality and cost of the chronic care that's provided.

Under a \$15-million grant from the federal Agency for Health Care Policy and Research (now called the Agency for Healthcare Research and Quality [AHRQ]) RAND, a research firm in Santa Monica, Calif., conducted the HIV Cost and Services Utilization Study (HCSUS). The study was one of the largest and most detailed service reviews ever conducted of people with a specific chronic condition. It produced extensive data from a nationally representative sample of 2,864 HIV-infected patients. Data collected included detailed medical and health services information on patients, including clinical and functional outcomes.

## THE PROJECT

This project supplemented the HCSUS study by obtaining data from the HIV-patients' physicians and other health care providers in order to examine how the organization, financing, and characteristics of medical providers affects the quality and cost of care received by people with HIV/AIDS. The investigators had to wait for an extended period of time in order to get data from the larger federal study.

Under the grant, researchers at Harvard Medical School developed two survey instruments for assessing clinician characteristics and health care site characteristics. Under a subcontract with Harvard, RAND, which led the larger HCSUS study, fielded both surveys between September 1997 and June 1999. The site (or practice location) survey was sent to 282 health care sites (public and private hospitals and clinics or units within them, solo or group practices, HMOs, and neighborhood health centers). Of these, 199 sites responded, for a 69.5 percent response rate.

Then RAND developed the physician sample from information collected in the HCSUS study, in which participants were asked to designate their principal HIV physician. In all, 571 clinicians received the survey, including 34 nurse practitioners or physician's assistants designated by patients as their principal HIV physician. Some 379 physicians responded. The survey's overall response rate was 72 percent.

More time than anticipated was needed to develop the survey samples and to sort out the links between patients and their clinicians and the sites studied. These issues, along with

delays caused by the unavailability of the HCSUS data, caused the project to be extended for two years past its original end date.

## FINDINGS

The researchers at Harvard Medical School have not yet completed analyses of the data. The following findings are preliminary:

- **40 percent of physicians surveyed had infectious disease training, and 60 percent were generalists.** About one-third (37%) of the generalists said they were not HIV experts, while just 4 percent of clinicians with infectious disease training said they were not experts in HIV.
- **HIV-specific knowledge was more strongly associated with experience with HIV patients (i.e., caseload) than with specialty training in infectious disease.** In addition, while HIV-patient referral practices were related both to physician experience and physician specialty, generalist experts and physicians with infectious disease training reported similar treatment practices. This suggests that generalist physicians can develop specialized knowledge in HIV care through clinical experience and self-education.
- **About two-thirds of the physicians (69%) said they would prescribe protease inhibitors to their HIV-infected patients only if they judged the patient was likely to adhere to a prescribed medication regime or schedule.** Researchers stated that this practice as described raises concerns, given the difficulty physicians display in accurately predicting a patient's future adherence to a medication regime, regional variations in response, and ethical considerations.

## Communications

In an article published in the *Journal of the American Medical Association*, the authors propose a model that can be used to assess the impact of a provider organization's characteristics on physician behavior. The model focuses on four key factors, including:

- Financial incentives
- Management controls
- Structural capabilities, including the practice's staffing mix
- Information, or normative influences, such as the practice's reliance on evidence-based guidelines of care.

A second paper on project results was published in the *Journal of General Internal Medicine*. Researchers presented information on this project to a number of professional groups, including presentations at three annual meetings of the Society for General Internal Medicine (see the [Bibliography](#)).

## AFTERWARD

The researchers are preparing two additional papers based on the data. Under a two-year \$183,095 grant from AHRQ, they are conducting further analysis of the data; the further analyses are designed to address variations in care over time and the changing patterns of health outcomes as new therapies become more widely available.

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### Prepared by: Jan Hempel

Reviewed by: James Wood and Richard Camer

Program Officer: James R. Knickman

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## BIBLIOGRAPHY

(Current as of date of the report; as provided by the grantee organization; not verified by RWJF; items not available from RWJF.)

### Articles

Beran MS, Cunningham W, Landon BE, Wilson IB and Wong MD. "Clinician Gender is More Important than Gender Concordance in Quality of HIV Care." *Gender Medicine*, 4(1): 72–84, 2007. Abstract available [online](#).

Ding L, Landon BE, Wilson IB, Hirschhorn LR, Marsden PV and Cleary PD. "The Quality of Care Received by HIV Patients without a Primary Provider." *AIDS Care*, 20(1): 35–42, 2008. Abstract available [online](#).

Ding L, Landon BE, Wilson IB, Wong MD, Shapiro MF and Cleary PD. "Predictors and Consequences of Negative Physician Attitudes toward HIV-infected Injection Drug Users." *Archives of Internal Medicine*, 165(6): 618–623, 2005. Abstract available [online](#).

Hodes SA, Wong MD, Landon BE, Wilson I, Cleary PD, Bozzette SA, Shapiro MF and Wenger NS. "Which Physicians Discuss of End-of-Life Issues with Their Patients with HIV?" *Journal of General Internal Medicine*, 18(Suppl. 1): 232, 2003. Abstract only.

Landon BE, Wilson IB and Cleary PD. "A Conceptual Model of the Effects of Health Care Organizations on the Quality of Medical Care." *Journal of the American Medical Association*, 279(17): 1377–1382, 1998. Abstract available [online](#).

Landon BE, Wilson IB, Cohn SE, Fichtenbaum CJ, Wong MD, Wenger NS, Bozzette SA, Shapiro MF and Cleary PD. "Physician Specialization and Antiretroviral Therapy for HIV." *Journal of General Internal Medicine*, 18(4): 233–241, 2003. Available [online](#).

Landon BE, Wilson IB, Wenger NS, Cohn SE, Fichtenbaum CJ, Bozzette SA, Shapiro MF and Cleary PD. "Specialty Training and Specialization Among Physicians Who Treat HIV/AIDS in the United States." *Journal of General Internal Medicine*, 17(1): 12–22, 2002. Available [online](#).

Landon BE, Wilson IB, Wenger NS, Shapiro MF, Bozzette SA and Cleary PD. "Specialty Versus Specialization: The Case of HIV Care." *Journal of General Internal Medicine*, 15(Supplement 1): 131, 2000. Abstract only.

Ohl M, Landon BL and Cleary PD. "Medical Clinic Characteristics and Access to Behavioral Health Services for Persons with HIV." *Psychiatric Services*, 59(4): 400–407, 2008. Abstract available [online](#).

Rodriguez HP, Marsden PV, Landon BE, Wilson IB and Cleary PD. "The Effect of Care Team Composition on the Quality of HIV Care." *Medical Care Research and Review*, 65(1): 88–113, 2008. Abstract available [online](#).

Rodriguez HP, Wilson IB, Landon BE, Marsden PV and Cleary PD. "Voluntary Physician Switching by Human Immunodeficiency Virus-infected Individuals: A National Study of Patient, Physician, and Organizational Factors." *Medical Care*, 45(3): 189–198, 2007. Abstract available [online](#).

Wilson IB, Ding L, Hays RD, Shapiro MF, Bozzette SA and Cleary PD. "HIV Patients' Experiences with Inpatient and Outpatient Care: Results of a National Survey." *Medical Care*, 40(12): 1149–1160, 2002. Abstract available [online](#).

Wilson IB, Landon BE, Ding L, Zaslavsky AM, Shapiro MF, Bozzette SA and Cleary PD. "A National Study of the Relationship of Care Site HIV Specialization to Early Adoption of Highly Active Antiretroviral Therapy." *Medical Care*, 43(1): 12–20, 2005. Abstract available [online](#).

Wong MD, Cunningham WE, Shapiro MF, Anderson RM, Cleary PD, Duan N, Liu HH, Wilson IB, Landon BE and Wenger NS. "Disparities in HIV Treatment and Physician Attitudes About Delaying Protease Inhibitors for Nonadherent Patients." *Journal of General Internal Medicine*, 19(4): 366–374, 2004. Available [online](#).

Wong MD, Shapiro MF, Cleary PD, Wilson IB, Landon BE, Cunningham WE, Andersen RM, Bozzette SA, Liu H and Wenger NS. "Prescribing Protease Inhibitors for HIV: Does Patient Adherence Matter?" *Journal of General Internal Medicine*, 15(Suppl. 1): 156, 2000. Abstract only.

## Survey Instruments

"HIV Cost and Services Utilization Study (HCSUS): Site Survey." Santa Monica, CA: RAND. Fielded nationally September 25 to October 27, 1997, to 282 health care sites.

"HIV Cost and Services Utilization Study (HCSUS): Provider Survey." Santa Monica, CA: RAND. Fielded nationally in 1998 to 571 clinicians.

## Presentations and Testimony

Bruce Landon, "Research in Managed Care: Measuring Organizational, Financial, and Clinical Features of Managed Care and Their Influence on Quality of Care," at the Research Methods Workshop, the Society of General Internal Medicine Annual Meeting, April 29 to May 1, 1999, San Francisco. 50 attendees.

Paul Cleary, "Clinician and Organizational Factors Affecting the Quality of HIV Care," at the University of Pennsylvania, January 20, 2000, Philadelphia. 200 attendees.

Mitchell Wong, "Provider Attitudes Toward Prescribing Protease Inhibitors to Non-adherent HIV-infected Individuals," at the Society of General Internal Medicine Annual Meeting, May 4–6, 2000, Boston. Approximately 50 to 75 attendees.

Bruce Landon, "Issues in HIV/AIDS Care: Findings from the HCSUS Study," at an invited presentation, the Association for Health Services Research Annual Meeting, June 27, 2000, Los Angeles. 50 attendees.

Bruce Landon, "Issues in HIV/AIDS Care: Findings From the HCSUS Study", Invited Presentation, Association For Health Services Research Annual Meeting, Chicago, 2000. 50 attendees.

Paul Cleary, "Clinician and Organizational Factors Affecting the Quality of HIV Care," at the plenary session presentation at the University of California at Berkeley's University-wide AIDS Research Program Meeting, February 16, 2001, Los Angeles. 200 attendees.

Paul Cleary, "Clinician and Organizational Factors Affecting the Quality of HIV Care," at the University of California at Berkeley, April 2001, Berkeley, CA. 20 attendees.

Mitchell Wong, "Withholding Protease Inhibitors from Non-adherent Patients with HIV Infection and Racial Disparities in Treatment," accepted for presentation at the Society of General Internal Medicine Annual Meeting, May 2001, Santa Monica, CA: RAND. 50 attendees.

Bruce Landon, "Physician Specialization and Antiretroviral Therapy for HIV: Adoption, Use, and Adherence in a National Probability Sample of Persons Infected With HIV." Accepted for presentation in plenary session at the Society of General Internal Medicine Annual Meeting, May 2002.