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Organization and Outcomes of Inpatient AIDS Care

Editor's Note: The establishment of AIDS hospitals and AIDS units within hospitals has been controversial. Unlike other specialty care, AIDS care arrangements were initially developed as much to segregate AIDS patients from other patients and staff as to provide the best possible care. Ten years after many of these units opened, little evidence was available about whether the benefits of aggregating AIDS patients outweighed the potential hazards of segregating people from the mainstream of hospital care. This Issue Brief describes a national study to determine how different organizational settings affect the outcomes of inpatient AIDS care.

Care of AIDS patients can be centralized in dedicated AIDS units or dispersed throughout the hospital

AIDS patients receive care in four hospital settings that represent distinct models of inpatient care. Comparing patient outcomes across these settings allows researchers to isolate the effects of hospital and nursing unit features. These settings are:

- **Dedicated AIDS units.** To ensure the availability of nurses for inpatient AIDS care, these units were structured initially to promote nurse satisfaction. Dedicated AIDS units are characterized by high levels of nurse control over clinical care at the bedside, good relationships between nurses and physicians, and an interdisciplinary team approach.
- **General medical units in hospitals known for high-quality nursing care** (so-called "magnet" hospitals). These hospitals have features of professional nursing practice that have been shown to be associated with lower overall mortality, and thus represent an important group to consider in evaluating AIDS care.
- **General medical units in hospitals with dedicated AIDS units.** Previous research suggests that hospitals that treat larger numbers of AIDS patients have lower AIDS mortality (although the reasons for this remain unclear). Thus, AIDS patients with different care arrangements within the same hospital also represent an important group to consider.
- **General medical units in conventional hospitals** (that is, non-magnet hospitals without dedicated AIDS units).

Study finds that homosexual men and younger patients are more likely to receive care in dedicated AIDS units

Aiken and colleagues analyzed data from 1,205 AIDS patients in 20 urban hospitals across the country. This large sample enabled them to link organizational features with patient outcomes. The study found differences across settings in the kinds of patients admitted, in the care they received, and in the outcomes of that care.

- Admission to dedicated AIDS units is not random. Male, white, and homosexual patients are more prevalent in dedicated units than in the general medical units of hospitals with AIDS units, and are also more prevalent in magnet hospitals than in all other settings. Minorities, women and older AIDS patients are underrepresented in dedicated AIDS units.
- Adjusting for patient characteristics and severity of illness, patients in the other HIV risk categories (with high-risk heterosexual partners, intravenous drug use, or frequent blood transfusions) are one-half to one-tenth as likely to be on dedicated AIDS units as patients without these risk factors and who are primarily homosexuals.
- Patients in hospitals with AIDS units (both in the specialized unit and on general medical units) were more seriously ill than patients in magnet and conventional hospitals.
- Patient preference is a factor in determining the inpatient care setting. In hospitals with both AIDS and general medical units, more patients had requested their units if they were on a dedicated, rather than general medical unit. Nearly one-half the patients who requested their units stated that the reason for doing so was that “the nursing care is better.” Patients on dedicated units overwhelmingly preferred those units; even 40% of patients on general medical units said that they preferred specialized units. Of patients who had spent time in both types of units, two-thirds favored the dedicated AIDS unit.

Care in dedicated AIDS units and magnet hospitals is more likely to meet professional standards for good AIDS care

Process measures that are typically associated with high-quality AIDS care (such as continuity, discussions about end-of-life care, and discharge planning) vary across the four inpatient settings.

- Compared to the other settings, patients on dedicated AIDS units and in magnet hospitals were more likely to report having a single nurse accountable for their care and to be able to identify that nurse by name.
 - These patients were also more likely to have discussed their preferences for life-sustaining measures with their caregiver.
 - Patients on AIDS units were more likely to have begun discharge planning than were patients in general medical units in conventional hospitals.
 - Patients on dedicated AIDS units and in magnet hospitals were less likely to perceive that nurses dislike caring for HIV-infected patients.
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Patients on general medical units in conventional hospitals had highest 30-day mortality rate

After controlling for the effects of illness severity, HIV risk category, and patient characteristics, 30-day mortality rates were significantly different in different inpatient settings.

- Patients in magnet hospitals were 60% less likely to die within 30 days of admission than patients in general medical units in conventional hospitals.
- Patients in dedicated AIDS units and general medical units in hospitals with AIDS units were 39% and 44% less likely to die than patients in general medical units in conventional hospitals.

Higher nurse-to-patient ratios and the presence of specialized AIDS physicians account for lower mortality rates

Having found different mortality rates in different settings, the researchers tried to identify the factors that could account for the difference.

- Higher nurse-to-patient ratios are strongly associated with lower mortality. The investigators estimate that, holding all other factors constant, an additional 0.5 nurses per patient day—or an additional nurse for every six patients on each eight-hour shift—might cut the likelihood of dying within 30 days by roughly one-third.
- The effect of having an AIDS specialist as an attending physician is similarly strong. Across all settings, patients whose physicians are associated with an AIDS specialty service are one-third as likely to die within 30 days as other patients.

Patients in dedicated AIDS units and in magnet hospitals are more satisfied with their care than are patients in other settings

Many factors influence patient satisfaction with care, including patient characteristics and the severity of illness. More severely ill patients are less satisfied with their care; Whites and homosexuals are more satisfied. After adjusting for these factors, the inpatient setting has a powerful influence on satisfaction.

- Consistent with the investigators' previous work, patients in dedicated AIDS units and in magnet hospitals are more satisfied than patients in general medical units in conventional or AIDS hospitals.
- Neither nurse staffing ratios nor the presence of an AIDS specialist physician accounts for this difference.
- In contrast, nurse control over the practice setting remains strongly associated with patient satisfaction, and accounts substantially for the differences in satisfaction between patients in AIDS units, magnet hospitals, and other settings.

POLICY IMPLICATIONS

- This study provides evidence that specialized AIDS units and magnet hospitals lead to better outcomes for AIDS patients. Given the underrepresentation of women, minorities and older people in these settings, hospital personnel and health professionals should inform all AIDS patients of the existence and potential benefits of dedicated AIDS units.

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POLICY IMPLICATIONS

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- Since the data for this study were collected (1990-1991), morbidity and mortality from HIV has declined dramatically, as has hospital use for patients with HIV. From 1995-1997, hospitalizations fell by 30%, and the number and rate of days of care declined by almost 40%. These changes, due to intensive antiretroviral therapies, may have a significant impact on the availability of specialized AIDS units. However, the need for AIDS care remains great, with 364,000 people in the U.S. living with AIDS as of December 1998.
- The study adds to the growing amount of research demonstrating that resources and policies that govern the work of clinicians in hospitals are important in determining the clinical outcomes of patients. These findings are particularly noteworthy in a climate of extensive restructuring of hospitals, work design and reductions in nurse staffing. It is highly likely that the outcomes of patients with conditions other than AIDS will be affected by such changes.

This Issue Brief is based on the following article: L.H. Aiken, D.M. Sloane, E.T. Lake, J. Sochalski, A.L. Weber. Organization and Outcomes of Inpatient AIDS Care. Medical Care, August 1999, vol. 37, pp. 760-772. See also L.H. Aiken, D.M. Sloane, E.T. Lake. Satisfaction with inpatient AIDS care: a national comparison of dedicated and scattered-bed units. Medical Care, September 1997, vol. 35, pp. 948-962.

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