

## Predictors of retention among HIV/hemophilia health care professionals

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### Abstract

Health care professionals working with individuals with chronic medical illness, especially those infected with the Human Immunodeficiency Virus (HIV), may be at risk for burnout and departure due to various job stresses such as the death of patients and social stigma. Factors that prevent burnout and employee attrition are seldom studied. Two hundred thirteen staff (doctors, nurses and mental health workers) at a representative sample of Hemophilia Treatment Centers (HTC) completed instruments to measure Burnout (Maslach Burnout Inventory), and perceived job stresses and satisfaction (job tasks, interactions with colleagues and patient care). The staff were surveyed again after two years and their job status determined after 4 years. After 4 years, 35% of the staff had left the field of Hemophilia/HIV care. Univariate tests found that retention was significantly associated with initial job satisfaction, being married and low levels of stress with colleagues. Burnout, as measured by the Maslach Burnout Inventory, at baseline, was unrelated to job retention over 4 years. An adjusted multiple logistic regression of all significant variables found that colleague support was most related to retention (OR=2.8, CI=1.49,5.1). We conclude that attrition of highly trained staff is a significant issue for patients and HTCs. These data suggest the important role that a well-functioning team can have in buffering the inevitable stresses associated with HIV care. Mental Health professionals have considerable expertise in addressing these issues. © 2002 Elsevier Science Inc. All rights reserved.

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### 1. Introduction

“Burnout” was coined by Freudenberg [1] to describe the constellation of feelings that professionals experience when emotional resources are depleted. Maslach and Jackson [2–4] further refined the concept as end-stage discouragement with one's work that is comprised of three components: emotional exhaustion, depersonalization and reduced sense of personal accomplishment. “Burned out” health care professionals then, may be less able to give of themselves psychologically, develop more negative or cynical attitudes about their patients, and/or increasingly evaluate their work with patients in a negative fashion. In addition, burnout can detrimentally affect organizational

functioning by contributing to employees' physical symptoms, reduced job performance, and intention to leave a position [5,6]. Burnout has been found to contribute to employee attrition in a variety of helping professions [7–10].

Evidence has been accumulating that health care professionals working with persons with chronic medical illnesses, especially those who are HIV infected, may experience burnout [7,11,12]. Emotional stressors specifically related to HIV include fear of contagion, stigmatization at work and in private life, difficulties preventing HIV transmission by patients to others, repeated losses through patient debilitation and death and caseloads comprised solely of AIDS patients [9,13–18]. General characteristics of institutions that foster burnout and may be salient for HIV care include job/role expansion, ambiguity of role demands, long hours, high workload, and ambiguous or undesirable of policies [14,19–23].

Patient deaths have had special significance for profes-

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sionals involved with hemophilia. Many professionals entered the field of hemophilia when use of factor concentrate began to improve the morbidity and mortality of the illness. Factor concentrate was a powerful intervention, beyond palliative and symptomatic care. Due to the low prevalence of hemophilia and the expertise required to treat this complex disease, individuals with clotting disorders generally are treated in regional tertiary care hemophilia centers. In these centers, the specialized care providers and consumers often develop long-term relationships. Gordon et al. [9] found that hemophilia nurses suffered as a result of repeated losses of patients they had known and treated for many years. They reported feelings of guilt for contributing to the HIV infection through the use of blood products. This finding is in stark contrast to the significant proportion of nurses and physicians caring for the gay men with AIDS who were found during the 1980s to hold patients solely responsible for their infection [24,25].

Although original descriptions of burnout characterized it as a result of environmental stressors, other formulations have pointed to the importance of person/environment interactions [25]. For example, discomfort of an individual health care professional about homosexuality can increase stress when working with gay men [26,27]. Similarly, burnout is fostered by over-identification with patients or the perception of therapeutic options as being inadequate [9,13]. Underlining the contribution of the individual to the interaction, certain demographics are also predictors of burnout. These characteristics include young age, single marital status, or being a nurse, especially an inexperienced one [4,28–31].

There are also protective or buffering factors that may reduce, delay, or prevent burnout. Autonomy, intellectual stimulation, opportunities for promotion and personal growth, and adequate communication with supervisors appear to serve protective functions for health care providers [11,16,29,32–34]. Haviland et al. [14] found that factors in reducing stress were, humor, networks of support, and support from a supervisor. A cross-sectional survey of professionals dealing with HIV and hemophilia found that a good working relationship with colleagues was associated with a lower risk of burnout [35]. In one of the few longitudinal studies in this area, Tannenbaum and Butler [36], reported on the effects of a multicenter support group for staff working with persons with both hemophilia and HIV. Although the variation in burnout over time was small, the group members unanimously reported that mutual support was the most important feature of the group.

The current study is a longitudinal study of burnout in health care professionals working with patients with both hemophilia and HIV. Job stresses, and job characteristics as well as protective features such as job satisfaction and opportunities for professional development, were examined. These factors were analyzed in terms of their association with burnout and job retention and burnout over a four-year period.

Table 1  
Demographic characteristics of hemophilia health care providers (N = 213)

	% Endorsed
Occupation	
Nurses	30
Physicians	28
Mental Health Workers	24
Administration	9
Other	9
Female	68
White	94
Married	72
Provide care for adult and child patients	69
Mean	
Age—(years)	42.9
Proportion of time spent with direct care	50
Hemophilia patient deaths	13.6

## 2. Methods

### 2.1. Subjects and procedure

Health care workers were surveyed first in 1994 using the following procedures as previously described and approved by the Hospital's IRB [34]. Hemophilia Treatment Centers (HTCs) were identified through the National Hemophilia Foundation. Centers were classified in terms of professional staff composition, number of patients, urbanicity and geographic location and then stratified to provide a sample of 40 that was proportionally representative of the 159 HTCs. Directors were asked by letter to provide a list of personnel and permission to contact their staff for enrollment in the study. During 1994, two hundred eighty-three staff members were sent the "Health Care Provider Survey" which also included a letter of informed consent and a preaddressed, stamped return envelope (survey available upon request). The surveys were coded to preserve respondents' confidentiality and reminder notices were sent six weeks later to nonrespondents. Seventy-five percent of the surveys were returned (213 of 283). In 1996, 194 of the 213 providers were still employed in hemophilia care. They were sent a follow-up survey with the same procedures. Centers were contacted again in 1998 to verify employment status of providers. The demographic characteristics at baseline of the predominately white, female and married sample is shown in Table 1. The sample reflected the expected range of occupations in hemophilia care, with most providing care for both adults and children.

## 3. Measures

### 3.1. Burnout

The Maslach Burnout Inventory (MBI) is a 22-item inventory that yields scores on three subscales: Emotional

Exhaustion, Personal Accomplishment, and Depersonalization [4]. The Emotional Exhaustion and Personal Accomplishment subscales were administered because these two subscales have the strongest internal consistency coefficients (Chronbach's alpha of .90 and .79, respectively) [4,16]. The MBI is considered a reliable and valid measure of burnout [2,3,4,17,28].

Responses to the MBI are scored from 1 (never) to 7 (daily), with higher scores reflecting the more frequent occurrence of each item in the respondent's life.

### 3.2. Perceived job stresses and satisfaction; educational experiences

For the 1994 survey, scales were developed to reflect stresses related to job tasks (9 items, such as: "My work takes longer than a normal day"; "I have too much work"; "I have a rewarding life outside of work"; and "I am well prepared for this kind of work."), interactions with colleagues (10 items, such as: "I have difficult team members"; "Team members have unrealistic expectations of me"; "I can share difficulties with colleagues" and "I feel support by colleagues.") and patient care (12 items, such as: "I feel appreciated by my patients"; "I feel I make a difference to patients"; "I worry about being exposed to HIV"; "Many of my patients feel they deserve special treatment.") [35]. Each scale contained items to assess contributors to job stress and enhances of job performance. As previously reported, measures of inter item reliability ranged from acceptable to excellent [35]. Five items assessed respondents' overall sense of job satisfaction using a Likert-type response scale.

Respondents were asked to indicate whether they had participated in various educational experiences, such as hemophilia or HIV-related national and regional meetings. Using a Likert-type scale, participants rated these experiences as to their effectiveness in improving clinical skills and job comfort.

### 3.3. The follow-up surveys

In 1996, the MBI subscales (Emotional Exhaustion and Personal Accomplishment) were sent to the 194 providers still employed at HTC. In 1998, HTCs were contacted to verify the employment status of every provider that returned a survey in 1994. For those that had left the HTC the nature of any subsequent employment (hemophilia care or otherwise) was verified. Thus, all 213 providers surveyed in 1994 were classified as to their employment in the field of hemophiliac care during 1998. Providers, themselves, were not asked to complete surveys in 1998.

### 3.4. Prevalence of burnout

Of the 194 providers still employed at their HTCs, 163 (84%) returned the 1996 survey. Using high Emotional

Table 2  
Health Care Providers

	Maslach Burnout Scale Scores	
	Emotional Mean Exhaustion (Standard deviation)	Personal Mean Accomplishment (Standard deviation)
HTC* 1994 (N = 213)	21.16 (9.86)	37.96 (7.66)
HTC* 1996 (N = 163)	22.16 (9.86)	39.85 (4.99)
Maslach Norms <sup>4</sup> (N = 11,067)	20.99 (10.75)	39.74 (7.11)
Cystic Fibrosis	18.69	40.29
Social workers <sup>38</sup> (N = 105)	(9.84)	(4.84)
General Practitioners <sup>39</sup> (N = 245)	21.13 NA**	37.67 NA**
Medical Residents <sup>40</sup> (N = 67)	25 (7.3)	38 (5.9)
Nurses <sup>32</sup> (N = 155)	20.0 (9.99)	37.00 (6.84)

\* HTC = Hemophilia Treatment Staff

\*\* NA = Data not available.

Exhaustion and low Personal Accomplishment scores to define burnout, as suggested by Maslach, resulted in 2.1% of the 1996 sample being classified as "burnt out," as compared to 7.4% in 1994. The mean scale scores of the Maslach Burnout subscales (Emotional Exhaustion and Personal Accomplishment) for the health care providers surveyed in 1994 and in 1996 are shown in Table 2. For comparison purposes, the Table also lists scale scores reported by the Maslach normative data and four projects that assessed healthcare providers in areas other than hemophilia or HIV [32,38–40]. The mean personal accomplishment and emotional exhaustion scores of those in HTCs are comparable to the other samples.

### 3.5. Factors associated with retention

Using the 1994 assessment comparisons were made based on job status at the 1998 follow-up. Of the initial 213 providers, 140 remained at their HTCs. The only demographic/professional difference was that those who remained were more likely to have been married (70.9% vs. 53.4% for unmarried,  $\chi^2 = 5.66$ ,  $P < .05$ ). Scale scores, as shown in Table 3, reveal significant differences based on job satisfaction and perceived stress with colleagues. There was no difference between groups on the MBI subscales. An adjusted multiple logistic regression, entering the variables significant in univariate comparisons, found that less perceived stress with colleagues and being married were significant predictors of job retention (Table 4). Fig. 1 illustrates the level of perceived colleague stress at the initial assessment for those who left the centers by 1996, those who departed between 1996 and 1998, and those who re-

Table 3  
Hemophilia Health Care Providers Initial Scale Scores by Job Retention at 1998 Follow-up

Scales	Range	Remained (N = 140)		Left HTC* (N = 73)		<i>t</i>	<i>p</i>
		$\bar{X}$	SD	$\bar{X}$	SD		
Job Stress	0–9	2.76	1.28	2.54	1.51	1.10	0.27
Patient Stress	0–24	5.27	1.51	5.33	1.48	0.30	0.76
Colleague Stress	0–10	2.24	1.65	3.27	2.01	3.95	0.000
Job Satisfaction	0–20	13.53	2.42	12.24	3.35	3.17	0.002
Emotional Exhaustion	0–54	22.56	9.56	21.40	10.43	0.81	0.42
Personal Accomplishment	0–48	37.49	7.79	38.85	7.37	1.23	0.22
Meeting Attendance	0–115	15.69	15.22	17.09	14.60	0.43	0.67
Meeting Helpfulness	0–4	2.99	0.59	3.03	0.62	0.48	0.63

\* HTC = Hemophilia Treatment Center

mained employed at their HTCs all four years. A test for linear trend was significant ( $F=1,295$ ,  $P=.02$ ).

#### 4. Discussion

Hemophilia health care has been profoundly transformed by the significant number of patients infected with HIV through the use of blood products prior to 1985. This study was a four-year longitudinal investigation of the relationships among burnout, job-related stress, job satisfaction, and retention of professional level employees involved in the care of patients who have both hemophilia and HIV infection. This study suggests that despite the stress involved in hemophilia care, provider burnout, as measured by the MBI, is low. The subscale scores of emotional exhaustion and personal accomplishment were generally comparable to published norms and other healthcare samples. Despite the relatively low rates of burnout as measured by the MBI, in the four-year period from 1994 to 1998, more than one third of the hemophilia treatment professionals left their HTCs.

Attrition of hemophilia health care professionals is a significant issue for both patients and treatment centers.

Staff turnover requires an adjustment for chronic patients who may have mistrust of the health care system because of their iatrogenic infection. Losing the care and support of their long-term health professionals may be threatening to those facing sensitive health concerns and decisions. Patients and families may also be coping with other losses associated with hemophilia and HIV. Similarly, the loss for the remaining health care team members is significant. Teams often have to cope with a transitional period during which new personnel is not yet hired and/or adequately trained. In the current health care environment, losing a staff member is a significant financial burden for the HTC. There is considerable investment in providing the specialized training HTC staff require, far beyond the skills mastered for the basic professional degree. For example, in just the first year of a nurse's employment in a HTC, training costs range from \$2,000 to \$5,000.

In this study, the most significant predictor of retention over 4 years was a professional's rating of stress involving colleagues. Specifically, the greater the perceived colleague stress, the more likely it was that a professional would leave hemophilia/HIV care. This finding is consistent with earlier work suggesting that social support can have an important

Table 4  
Adjusted Multiple Logistic Regression on Job Departure At 1998 Follow-up Among Hemophilia Health Care Providers

Variable*	Odds Ratio	C.I.**	Significance
Colleague Stress			
Low	1.0		
High	2.8	1.49, 5.10	0.002
Marital Status			
Married	1.0		
Single	2.0	1.03, 3.79	0.039
Job Satisfaction			
High	1.0		
Low	1.4	0.77, 2.70	0.253

\* Scales split at median for ease of interpretation. \*\* C.I. = Confidence Interval

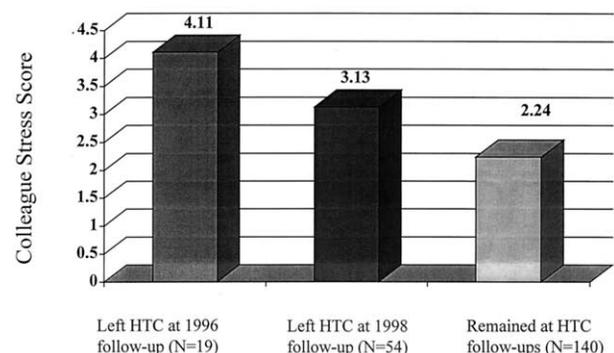


Fig. 1. Colleague stress by time of departure from job.

protective effect on stressed healthcare providers [34,35]. It may be that difficult patient care issues bring into focus underlying tensions and covert conflicts that are not evident under less stressful conditions [41]. Stress involving colleagues should be taken seriously and may be an indication of more global job dissatisfaction.

The job satisfaction scale showed a significant relationship to retention but, in the regression equation, scores did not add significantly to the prediction of professional's separation from employment. This finding suggests that job satisfaction may be related with the level of stress with colleagues. The 5-item job satisfaction scale included items reflecting intentions to remain in the position. Ajzen and Fishbein's Theory of Reasoned Action suggests the best predictor of an action is the intention to engage in the behavior [42]. Assessing the intentions of professionals could add to the predictive power of global measures such as the MBI. Such intentions have been found to be useful in predicting employee turnover in a variety of health care and nonhealth care settings [43–46].

Educational activities continue throughout a career for providers in hemophilia treatment. These educational programs focus on skills building and knowledge enhancement. Unfortunately, these training experiences were not associated with job satisfaction or retention. However, given the importance that respondents placed on supportive colleague relationships, training that focused on team relationships might be helpful. Brown et al. [35] reported that regular meetings of the treatment team were rated as reducing job stress by those in hemophilia care and it has been found in other occupations as well [47]. It appears that meetings that allow ongoing interaction and opportunities for conflict resolution are more important for job retention than education per se. Future research may answer the question of whether team-building interventions might reduce job stress and improve retention. It is possible that if these results are generalizable to other complex medical situations or to nonhemophilia HIV care. Although the medical treatment of AIDS is similar among those with or without hemophilia, some psychosocial issues, such as substance abuse, may be more prominent in the care of HIV-infected families without hemophilia. Despite these potential differences in job stressors, these data suggest that support from professional colleagues, rather than any specific job task, is the more salient factor in enhancing employee retention.

The Maslach Burnout Inventory scales are the standard measure of burnout but were not predictive of retention. There are several possibilities for this intriguing finding. Burnout, as a construct, may be less associated with job retention than commonly thought. Although one recent study found that MBI scores predicted dropout of AIDS volunteers over time, there are very few studies that have examined the MBI in relation to behavioral outcomes, such as job performance or retention [48]. In addition, one longitudinal study found that MBI scores were significantly

related to personality measures [49]. That study suggested that the MBI may be a stable characteristic, rather than a temporary stress reaction. An alternative study design may have yielded different relationships. If emotional exhaustion occurs suddenly and providers leave their jobs immediately thereafter, then assessments every two years can not discern this relationship. However, because of the slow rate of employee turnover, this study used a multiyear time frame, as have others [48]. In addition, it is possible that job attrition was more strongly related to burnout among the providers that did not participate in the study. Other mail surveys of healthcare providers have yielded response rates ranging from 28% to 78% [32, 38, 39], with many projects recording responses from only about half of the population [30,50–52]. The response rates of 75% and 84% for this project are excellent but the results may have been influenced by those that did not participate. Also, burnout may have been more prevalent among the nonresponders, so the rate found may be lower than for the entire population. Further research is needed to more completely understand the utility of the MBI in predicting the behavior of providers.

There are limitations to this study. The participants were recruited through Hemophilia Treatment Centers, the source of medical care for the majority, but not all, of persons with hemophilia in the United States. Although response rates were excellent and the sites were representative of the Centers across the country, not all staff participated. In addition, because of small numbers at each site, there was inadequate power to detect some of the individual center differences that might have been informative. Last, not all potentially relevant variables were measured. Many aspects of HIV and AIDS care have changed over those four years, including increasing concerns of legal implications of infection and the use of highly active antiretroviral therapy.

This research is one of the rare studies that examine health caregiver attitudes over a period of more than a year. This four-year study gives a detailed picture of the relationships among occupational stress, professional support, burnout, and employee retention. Given the importance of staff stability, it is of concern that in a four-year period, 35% of these highly trained professionals left health care. With this rate of attrition and the stress related to hemophilia care, it is surprising that such a small proportion of professionals in HTC's reported burnout. Importantly, colleague support was the factor most related over time to the retention of professionals. This finding underscores the importance of a well functioning team in buffering the inevitable stresses of complex medical care. Fortunately, mental health professionals that work in a medical setting may be able to address these issues in their liaison work. Job stress may be reduced by improving team relationships and enhancing colleague support. Future research will clarify whether such interventions lengthen the time that providers work in the healthcare field.

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