

# COMPENSATION, BENEFITS, AND SATISFACTION: THE LONGITUDINAL EMERGENCY MEDICAL TECHNICIAN DEMOGRAPHIC STUDY (LEADS) PROJECT

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## ABSTRACT

**Objective.** To determine the compensation, benefit package, and level of satisfaction with the benefits of nationally registered emergency medical technicians (NREMTs) in 2001. **Methods.** The Longitudinal EMT Attribute Demographic Study (LEADS) Project included an 18-question snapshot survey on compensation with the 2001 core survey. This survey was sent to 4,835 randomly selected NREMTs. A total of 1,718 NREMT-Basics and NREMT-Paramedics, from 1,317 different postal zip codes, responded to the survey. **Results.** Most NREMTs in the survey (86% of the compensated NREMT-Basics and 85% of the compensated NREMT-Paramedics) were employed primarily as patient care providers. For their emergency medical services (EMS) work in the previous 12 months, compensated NREMT-Basics had mean earnings of \$18,324 (standard error, \$978) and compensated NREMT-Paramedics had mean earnings of \$34,654 (standard error, \$646). At least 26% of compensated NREMT-Basics and 9% of compensated NREMT-Paramedics had no health insurance. The majority of compensated NREMTs (62% of the Basics and 57% of the Paramedics) reported their retirement plans were not adequate to meet their financial needs. EMTs are not satisfied with the appreciation and recognition they receive from EMS employers. About one-third (35% of the compensated NREMT-Basics and 30% of the compensated NREMT-Paramedics) were not satisfied with all of the benefits they receive from their EMS employer. Nearly all (94% of both compensated NREMT-Basics and NREMT-Paramedics) believed that EMTs should be paid more for the job that they do. **Conclusions.** The adequacy of EMT compensation and benefit packages is an area of concern. It is not unreasonable to believe that these factors are associated with EMT retention and attrition. Additional longitudinal EMT information on compensation and benefits are anticipated to determine the extent to which compensation and benefits are factors in EMT retention. **Key**

**words:** emergency medical technician; compensation; benefits; longitudinal; demographic; workforce.

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Over the past three years, nationally registered emergency medical technicians at the basic emergency medical technician level (NREMT-Basics) and at the paramedic level (NREMT-Paramedics) have expressed dissatisfaction with the pay and benefits they received. This is particularly serious, because good pay and benefits also are ranked by NREMTs as one of the most important aspects of their job.<sup>1</sup>

Pay and benefits have been recognized by many as an important factor in EMT retention. McSwain<sup>2</sup> identified an EMT condition he called "burnout" as a cause of EMTs' leaving the emergency medical services (EMS) profession. He also noted that full-time paid EMTs are motivated by good working conditions, a livable wage, and appropriate fringe benefits. Elling<sup>3</sup> reported, based on a limited, nonrandomized survey of 62 New York EMT-Paramedics, that although 95% enjoyed their work, 89% of them felt that the job was stressful. He also reported that, of 11 listed job improvements, more money was evaluated as the top priority. The *Journal of Emergency Medical Services (JEMS)* staff, in their introduction to the first of their informal annual salary surveys, stated, "one of the top concerns of people in all professions tends to be their rate of pay."<sup>4</sup> Dernocoeur,<sup>5</sup> who provides insight into working in the field as an EMT, noted, "after being spit on and shot at, a person's humanitarian streak can lose its grip when the paycheck does not support even a modest life-style." Dodson,<sup>6</sup> a former senior paramedic in Presidio, Texas, wrote legislators exclaiming, "droves of experienced field paramedics are leaving jobs because of low pay, little or no benefits and overload of working hours. It is common in this profession that experienced, qualified paramedics are making \$<4.00-\$10.00/hour with few to no benefits or insurance and are often working 80 hours per week."

To learn more about satisfaction with pay and benefits, the National Registry of Emergency Medical Technicians (NREMT), in collaboration with the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA), surveyed a national sample of EMTs as part of the ongoing

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TABLE 1. Sample Size and Response Rates, by Stratum

Type of EMT	No. in Universe	No. in Sample	No. of Respondents	Response Rate
Basic: white, new	32,059	1,045	235	22.5%
Basic: minority, new	6,191	544	77	14.2%
Basic: white, old	66,803	681	289	42.4%
Basic: minority, old	9,308	232	97	41.8%
Paramedic: white, new	6,085	843	341	40.5%
Paramedic: minority, new	584	442	137	31.0%
Paramedic: white, old	35,887	750	384	51.2%
Paramedic: minority, old	1,809	298	144	48.3%
Total	158,726	4,835	1,704	35.2%

Longitudinal Emergency Medical Technician Attribute Demographic Study (LEADS) Project. The goal of the LEADS Project was to describe the demographic characteristics of the EMS workforce and to provide assessment of specific issues of concern to the EMS and the nation's health care system.

## METHODS

### Questionnaire Development

As part of the LEADS Project, a 46-item core demographic and attribute questionnaire was developed and pilot tested.<sup>7</sup> This core survey has been administered annually since 1999. In 2001, an 18-item compensation snapshot survey module was developed and pilot tested, and appended to the core survey for administration. The compensation snapshot focused on salary and benefit issues. It included questions about tenure with current employer, type of position, whether specific benefits were provided, and satisfactions with these benefits, pay raises, and overall.

### Sample

The NREMT provides registration services, which are part of the licensure process for EMTs in 43 states. In 2001 this included 114,361 NREMT-Basics and 44,365 NREMT-Paramedics. NREMTs who maintain their registration remain in the NREMT database.

In 2001, stratified random samples of NREMT-Basics and NREMT-Paramedics were selected from the Registry's database to participate in the LEADS survey. Stratification was on the basis of time since initial registration (new [ $<1$  yr], vs. old [ $\geq 1$  yr]), level of registration (NREMT-Basic and NREMT-Paramedic), and race (white vs minority). The numbers of individuals, the numbers sampled, and the number responding in each stratum are presented in Table 1.

### NONRESPONSE STUDY

To estimate the amount and direction of response bias, an abbreviated version of the survey was mailed to the NREMT-Basics and NREMT-Paramedics who did not respond to the original survey (nonresponders). Non-

response studies are consistent with U.S. Department of Education research guidelines<sup>8</sup> and health professional research practices.<sup>9</sup>

### Weighting

Case weights were calculated for respondents in each cell, reflecting the individual's probability of selection. The case weights were adjusted, within cell, for non-response. The use of adjustment cells is the most common method for adjusting for nonresponse bias in health surveys.<sup>10</sup>

### Analysis Methods

The foci of these analyses were on compensation and benefits. EMTs who did not receive any financial compensation—that is, volunteer EMTs, EMTs reporting they did not work for any EMS organizations in the previous year, and EMTs reporting no EMS earnings in the previous year—were excluded from the analyses. Over half (57%) of the NREMT-Basics were excluded. Most of these (67%) excluded individuals were volunteers. Only 8% of the NREMT-Paramedics were excluded from the analyses, 63% of whom were volunteers.

Because EMT-Paramedics are trained in more skills and fill a role in the health care system that is different from the role filled by EMT-Basics, descriptive statistics were calculated separately for EMT-Basics and EMT-Paramedics. Tests of statistical significance were conducted using SAS Version 8 (SAS Institute, Inc., Cary, NC). This SAS procedure also supported the multivariate analyses of weighted data that were conducted to control for factors that might be influencing the observed outcomes. The models used in these multivariate analyses only considered first-order effects.

## RESULTS

A total of 698 NREMT-Basics and 1,006 NREMT-Paramedics completed the survey. These respondents were located in 1,317 different postal zip codes throughout the United States. Response rates are presented in Table 1. A total of 377 (22.1%) NREMT-Basics and 430 (33.4%) NREMT-Paramedics returned the abbreviated non-responder survey.

TABLE 2. Percentage of Compensated NREMTs with Health and Other Insurance Benefits, by NREMT Level

Benefit	NREMT-Basic			NREMT-Paramedics		
	EMS Provided*	Do Not Have	Do Not Know	EMS Provided	Do Not Have	Do Not Know
Health insurance	47.0	26.1	1.2	78.8	9.3	0.1
Prescription plan	43.2	28.3	3.5	74.5	13.1	1.7
Dental insurance	37.0	35.8	1.7	65.9	18.2	0.1
Life insurance	36.9	27.3	3.2	54.7	16.0	4.5
Optical plan	27.2	40.4	4.8	47.2	35.2	4.1
Short-term disability	21.9	39.2	13.5	39.1	33.7	10.0
Long-term disability	19.7	43.6	14.1	32.6	39.1	10.9
Long-term care insurance	18.7	52.4	13.7	22.6	54.2	16.4

\*"EMS provided" means that EMS employer(s) contributed some or all of the cost of this benefit. The proportions of respondents for whom the benefit is provided by non-EMS employers or paid for entirely by the respondent are not indicated in this table.

## Nonrespondent Study

Responses were received from 493 NREMT-Basics and 496 NREMT-Paramedics who did not complete the original questionnaire. The responses of EMT-Basics and EMT-Paramedics who completed and returned the nonrespondent survey were compared with the responses of demographically similar regular survey respondents. Discriminant analysis indicated differences in the response patterns between respondents and nonrespondents for only one of the eight EMT strata: Paramedic—minority, new. Differences were associated with responses to items about EMS income in the past 12 months (nonrespondents reported significantly higher incomes than respondents), physical fitness (nonrespondents reported themselves to be significantly more fit), and satisfaction with having a job that is exciting (nonrespondents reported higher levels of satisfaction). However, new, minority EMT-Paramedics comprised only 1.3% of the total number of EMT-Paramedics. Accordingly, the overall impact of this bias on results should be quite small.

## Demographics

The 2001 LEADS compensation respondents (i.e., non-volunteer EMTs who received compensation for their work in 2001) were employed primarily as patient care providers (86% of the NREMT-Paramedic respondents and 85% of the NREMT-Basic respondents). Five percent of the NREMT-Paramedics were field supervisors; 5% were administrators; 2% were educators; and 1% were others). Three percent of the NREMT-Basics were administrators; 2 percent field supervisors, 2% were educators, and 9% were other. (Percentages do not sum to 100% because of rounding.)

Compensated NREMT-Basics differed from compensated NREMT-Paramedics in a variety of ways. Compensated NREMT-Basics were slightly younger (33.9 years old) than compensated NREMT-Paramedics (34.8 years old). Although the proportion of NREMT-Basics who were white (76%) was significantly lower than the proportion of NREMT-

Paramedics who were white (89%,  $p < 0.0001$ ), the proportion of NREMT-Basics who were men (69%) was not significantly different from the proportion of NREMT-Paramedics who were men (74%,  $p = 0.20$ ). However, the NREMT-Basics had less overall EMT experience than NREMT-Paramedics (4.2 years vs. 9.2 years,  $p < 0.0001$ ) and fewer years of employment with their current employer than NREMT-Paramedics (4.7 years vs. 5.7 years,  $p = 0.03$ ). A much greater proportion of the NREMT-Basics reported performing the duties of an EMT for fewer than 17 hours per week than did NREMT-Paramedics (47% vs. 13%,  $p < 0.0001$ ). The NREMT-Basics reported a significantly lower mean income (from EMS work) than NREMT-Paramedics: \$18,324 vs. \$34,654,  $p < 0.0001$  and a significantly lower total income (from all sources): \$29,365 vs. \$39,498,  $p < 0.0001$ .

## Health Insurance

The proportions of NREMT-Basics and NREMT-Paramedics without health and other types of insurance are presented in Table 2. NREMT-Paramedics were significantly more likely than NREMT-Basics to have employers provide each of these benefits, except for long-term care insurance ( $p < 0.0001$ ). However, the provision of insurance benefits can be a function of factors such as the type of employer, tenure with the employer, experience in the profession, the number of hours worked per week, and whether one belongs to a collective bargaining unit. When multivariate analyses were performed to control for these factors, NREMT-Paramedics still were significantly more likely to receive health insurance ( $p < 0.0001$ ), prescription plan benefits ( $p < 0.0001$ ), and dental insurance ( $p < 0.005$ ) than NREMT-Basics.

More than a fourth (26%) of the compensated NREMT-Basics and 9% of the NREMT-Paramedics reported they did not have health insurance, either through their EMS employer, through another employer, or by paying for it themselves. These are probably underestimates, because many of the individuals who did not know whether they had the list-

TABLE 3. Percentage of Compensated NREMTs with Employer-provided Benefits, by NREMT Level

Benefit	NREMT-Basic			NREMT-Paramedics		
	Yes	No	Do Not Know	Yes	No	Do Not Know
Worker's compensation	76.2	15.7	8.1	90.6	7.1	2.3
Uniform allowance	71.3	27.6	1.1	84.5	15.5	0.0
Paid vacation	63.0	34.1	3.0	88.9	10.8	0.3
Paid holidays	60.4	38.0	1.6	78.0	21.9	0.1
Paid sick leave	54.3	42.8	2.9	80.4	18.9	0.7
Tuition assistance	37.9	52.8	9.3	48.6	48.9	2.6
Longevity awards	30.1	53.2	16.6	37.0	54.7	8.3
Stock options	10.1	80.8	9.1	12.8	83.3	3.9
Profit sharing	9.0	81.3	9.7	11.4	84.5	4.2

Note: Rows may not sum to 100% because of rounding.

ed benefit were probably lacking the benefit. Significantly more of the compensated NREMT-Basics (43%) than NREMT-Paramedics (33%) were dissatisfied or very dissatisfied with the health insurance provided by their primary EMS employer,  $p = 0.002$ .

### Other Benefits

A variety of other benefits could be provided by primary EMS employers (see Table 3). EMS employers were significantly less likely to provide EMT-Basics than to provide EMT-Paramedics with worker's compensation ( $p < 0.0001$ ), uniform allowances or free uniforms ( $p < 0.0001$ ), paid vacations ( $p < 0.0001$ ), paid holidays ( $p < 0.0001$ ), paid sick leave ( $p < 0.005$ ), and college tuition assistance ( $p < 0.005$ ). Controlling for type of employer, years of experience, number of hours worked per week, collective bargaining status, and tenure with current employer, all of these differences remained statistically significant (probabilities ranging from  $<0.0008$  to  $0.039$ ).

The proportion of EMTs who received free meals while on duty (or a meal allowance) was 10%, the proportion with a fitness facility on site or health club membership benefits was 37%, and the proportion receiving periodic physical examination or health screening benefits was 46%. All of these benefits were associated strongly with the type of organization and the type of service for which an individual worked. Multivariate analyses, controlling for these and other factors, indicated that these benefits were not associated with EMT level (i.e., basic vs. paramedic). However, both fitness facilities/health club memberships ( $p = 0.004$ ) and periodic physical examinations or health screenings ( $p = 0.01$ ) were significantly associated with the independent effects of membership in a collective bargaining unit, and more likely to be associated with membership in a collective bargaining unit. More than half (59%) of the EMTs in collective bargaining units reported their EMS employer had a fitness facility on site or provided health club memberships; 29% of the EMTs who were not in collective bargaining units reported receiving this benefit.

Similarly, 69 percent of the EMTs in collective bargaining units reported their EMS employer provided periodic physical examinations or health screenings; 37% of the EMTs who were not in collective bargaining units reported receiving this benefit.

About three quarters (72% of the NREMT-Basics and 81% of the NREMT-Paramedics) could receive support (through tuition reimbursement, paid time off to attend further training, or reimbursements for educational travel costs) for continuing education.

### Retirement

When asked to identify sources of postretirement income, the compensated NREMT-Basics were less likely to anticipate receiving income from an EMS employer-sponsored retirement plan ( $p < 0.0001$ ) and more likely to anticipate receiving income from another employer's sponsored retirement plan than NREMT-Paramedics ( $p = 0.01$ ). NREMT-Basics also were less likely to anticipate receiving income from personal retirement plans than NREMT-Paramedics ( $p = 0.003$ ) (see Table 4).

The perceived adequacy of these retirement income sources is a matter of concern. Well over half of the NREMT-Basics (62%) and NREMT-Paramedics (57%) either disagreed or strongly disagreed with the statement: "My retirement plan is adequate to meet my financial needs when I reach retirement age."

### Collective Bargaining and Compensation

Almost one fourths (24%) of the NREMT-Basics and 37% of the NREMT-Paramedics reported being members of a collective bargaining unit. The mean EMS earnings of NREMT-Basics who were members of a collective bargaining unit were significantly greater than the earnings of those who were not (\$32,094 vs. \$14,535,  $p < 0.0001$ ). Similarly, the mean EMS earnings of NREMT-Paramedics who were members of a collective bargaining unit were significantly greater than the earnings of those who were not (\$40,506 vs. \$31,386,  $p < 0.0001$ ).

Collective bargaining status is associated with several different factors, including the type of EMS serv-

TABLE 4. Anticipated Sources of Retirement Income, by NREMT Level

Source of Income	Basics	Paramedics
EMS employer-sponsored retirement plan	40.1%	63.8%
Other employer-sponsored retirement plan	46.3%	36.3%
Social Security	81.0%	85.5%
Personal retirement plan	68.3%	78.6%
Personal savings and investments	78.3%	82.8%

ice employing the EMT. Overall, two thirds (67%) of the fire service-based EMTs were represented by a collective bargaining unit, whereas only 8% of hospital-based and only 11 percent of the county or municipal EMTs were members of collective bargaining units. Because earnings are a function of many factors, multivariate analyses were conducted to control for the type of service, type of organization (i.e., U.S. government, other public, private), years with current employer, years of experience as an EMT, hours worked per week, gender, and race/ethnicity. After controlling for these factors, collective bargaining status was significantly associated with EMS earnings for NREMT-Basics ( $p = 0.0009$ ) and marginally associated with earnings for NREMT-Paramedics ( $p = 0.051$ ).

Compensated NREMT-Basics and NREMT-Paramedics who were members of collective bargaining units were more likely to receive pay raises than those who were not members (NREMT-Basics: 77% vs. 48%,  $p < 0.0001$ ; NREMT-Paramedics: 84% vs. 72%,  $p = 0.003$ ). However, when multivariate analyses were conducted to control for other factors, being a member of a collective bargaining unit was marginally associated with receiving a pay raise for NREMT-Basics ( $p = 0.08$ ) but not significantly associated with receiving a pay raise for NREMT-Paramedics ( $p = 0.23$ ).

The most common basis for these pay raises was cost of living: 49% of the NREMT-Basics and 57% of the NREMT-Paramedics felt this was one of the reasons for their raise. The next most common bases for raises were merit (indicated by 30% of the NREMT-Basics and 37% of the NREMT-Paramedics receiving raises) and longevity (indicated by 31% of the NREMT-Basics and 29% of the NREMT-Paramedics receiving raises).

## Satisfaction

Many EMTs (36% of the NREMT-Basics and 46% of the NREMT-Paramedics) either were dissatisfied or very dissatisfied with the appreciation and recognition received from their EMS organization. Responses to the satisfaction items also were analyzed as interval data and converted into a scale with very satisfied = 1.5, satisfied = 0.5, dissatisfied = -0.5, and very dissatisfied = -1.5. By using this scale, the typical NREMT-Paramedic had a negative satisfaction score (-0.01). This level of satisfaction with the appreciation and

TABLE 5. Overall Satisfaction with Benefits, by Collective Bargaining Unit Membership and NREMT Level

NREMT Level	Collective Bargaining Unit Membership	
	Yes	No
Basic	0.49	0.02
Paramedic	0.48	0.05

Note: Satisfaction responses were coded on a 4-point response scale: very dissatisfied = -1.5; dissatisfied = -0.5; satisfied = 0.5; very satisfied = 1.5.

recognition received was significantly lower than the level of satisfaction reported by the typical NREMT-Basic (0.20,  $p = 0.0002$ ).

The EMTs also were asked to rate their satisfaction with all of the benefits they received from their primary EMS employer. Their transformed satisfaction scores were similar (NREMT-Basics: 0.14; NREMT-Paramedics: 0.21). However, satisfaction with benefits packages was associated strongly with collective bargaining status (see Table 5). This association remained even when multivariate analyses, controlling for type of employer, years of experience in EMT, tenure with employer, race, and gender were conducted for both NREMT-Basics ( $p = 0.0008$ ) and NREMT-Paramedics ( $p = 0.009$ ).

Finally, NREMT-Basics and NREMT-Paramedics were asked, "Considering the type of work they do and the conditions they work under, do you think EMTs get paid much less than they deserve to be paid, get paid less than they deserve to be paid, receive a fair wage for what they do, get paid more than they deserve to be paid, or get paid much more than they deserve to be paid?" Both overwhelmingly (94% of the compensated NREMT-Basics and 94% of the compensated NREMT-Paramedics) reported that EMTs are paid much less or paid less than they deserve.

## DISCUSSION

This article summarizes findings of the compensation snapshot completed as part of the 2001 LEADS project. Compensation is a sensitive issue for EMS workers. A very high percentage (94%) of both NREMT-Basics and NREMT-Paramedics believe that EMTs should be paid more than their current salaries. One of the LEADS Project's research agenda items is to identify factors associated with job satisfaction, and to identify factors that influence attrition in EMS. Identifying exactly what is an adequate salary and what benefits are necessary to retain employees in EMS has not been researched. The answer will require a longitudinal analysis and an analysis of those who leave the EMS career field; both are planned components of the LEADS project.

It is of concern that a fourth (26%) of the NREMT-Basics did not have health insurance and that 16% of the NREMT-Basics did not have worker's compensation (an additional 8% did not know whether he or she

had worker's compensation) in a career field that exposes employees to health and safety hazards. Benefits such as dental, optical, and long-term disability are even less frequently available to paid NREMT-Basics than to NREMT-Paramedics. However, less than half of the NREMT-Paramedics reported their EMS employers provided optical, disability, or long-term care insurances. It also is noteworthy that 43% of the NREMT-Basics and 33% of the experienced NREMT-Paramedics reported they were dissatisfied or very dissatisfied with the health care insurance provided by their employer. The cumulative effect of 26% of paid NREMT-Basics not having health insurance at all and 43% of them reporting being dissatisfied with the insurance they do have, makes one wonder if this level of satisfaction is conducive to employee retention.

The workforce of NREMT-Paramedics are more likely to receive a variety of benefits from their employers than their NREMT-Basic counterparts. This is encouraging to the more established paramedics. However, only 80% of them and only one-half (52%) of the compensated NREMT-Basics receive paid sick days.

Retirement seems a long way off for many young members of the profession. It is a matter of potential concern that only 40% of the compensated NREMT-Basics and 64% of the compensated NREMT-Paramedics anticipated receiving retirement income from their EMS employer. Faith in Social Security remained high, with 81% of the Basics and 86% of the Paramedics expecting to receive retirement benefits via this avenue. Clearly, EMTs do not anticipate social security to be adequate to meet their retirement needs. Over three fourths (78% of the NREMT-Basics and 83% of the NREMT-Paramedics) anticipated some of their retirement income would come from personal savings or investments. The combination of retirement plans, savings, individual retirement accounts, and other methods of anticipated income still does not meet EMTs' perceived retirement needs. Sixty-two percent of the compensated NREMT-Basics and 57% of the compensated NREMT-Paramedics disagreed or strongly disagreed with the statement that their retirement plan was adequate to meet their financial needs when they reached retirement age.

Being a member of a collective bargaining unit was an advantage for both NREMT-Basic and NREMT-Paramedics. Controlling for type of employer, experience, tenure with employer, gender, and race/ethnicity, EMTs who were members of collective bargaining units received more money from their EMS employers than EMTs who were not members of collective bargaining

units. With similar controls, they reported greater levels of satisfaction with their overall benefits package.

Receipt of recognition and appreciation from EMS organizations is low. Thirty-six percent of the NREMT-Basics and 50% of the NREMT-Paramedics were dissatisfied or very dissatisfied with the recognition they are receiving from their EMS employer. Thirty-five percent of the EMT-Basics and 30% of the EMT-Paramedics were dissatisfied or very dissatisfied with all of the benefits received from their primary EMS employer.

## CONCLUSIONS

This article describes the data the LEADS project received about NREMT-Basic and NREMT-Paramedic compensation in 2001. The lack of health insurance and satisfaction of EMTs with their health insurance is a concern. Paramedics are more likely to receive benefits than EMT-Basics. The relationship of salary and benefits to EMT recruitment and retention is a major concern to the profession, because 94% of the NREMTs believe EMTs are paid much less or less than they should be.

Comparative analyses with other health occupations, with public service career fields and with the American public in general should be conducted. The LEADS project needs to continue and to focus on attributes that effect satisfaction and retention of EMS workers.

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