

# Taking the Industry's Pulse

## Stable, Secure, but Cautious

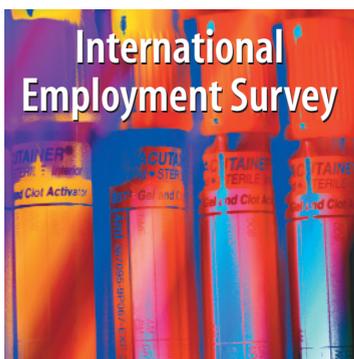
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Pharmaceutical Technology –  
Pharmaceutical Technology Europe

## Employment Survey 2002

**A**fter a year that has endured the devastating effects of global economic recessions, corporate bankruptcies, layoffs, and reorganizations, the need for a stable work environment has been steadily moving toward the top of every employee's list of priorities. Industry analysts have been carefully watching for signs of how these factors and the responses to them from government and regulatory agencies may ultimately affect the corporate job environment as a whole. The following results of the fifth annual international employment survey show that while the pharmaceutical industry remains strong, its employees are only cautiously optimistic.



The fifth international employment survey reports on the issues directly related to those who work in the pharmaceutical industry, including demographic information (such as age, gender, and location of employment), education and work experience, salary and benefits, and attitudes toward current employment. In addition, survey participants were asked to indicate the importance of particular educational backgrounds and skills when evaluating new employment candidates. Results are provided for employees working in the United States, including Puerto Rico, and those working in Europe. Although industry workers located in other countries also participated in the survey, the number of responses received from these areas were too few to be statistically significant.

When comparing salary and benefits information, including the statistics from the first four annual international employment surveys, readers should take into account factors such as a region's cost of living, economy, and exchange rate to US currency (respondents were asked to indicate all salary information in US\$). In addition, readers are encouraged to take into account geographic location, years of experience, job function, and highest level of educa-

tion and separated according to respondents' geographic region of employment (United States, including Puerto Rico, or Europe). A total of 1644 responses were received. Of these, 989 were from pharmaceutical employees working in the United States, 525 were from those working in Europe, and 130 were from other regions. Table I lists some of the overall findings reported by US and European employees. This article describes these and other results in detail.

Results are presented as mean average values or as percentages of the total number of respondents to a particular question (denoted as *n*). This article also is available on-line at [www.pharmtech.com](http://www.pharmtech.com). The editors encourage readers to submit comments about this year's survey as well as suggestions for next year's questionnaire.

### Demographics

**Gender.** Of 1492 total responses to this question, 1128 (76%) were from men, and 364 (24%) were from women. Figure 1 shows this statistic according to US and European respondents. The pharmaceutical industry remains a predominately male field by nearly a 3:1 ratio in the United States and at least a 4:1 ratio in Europe.

**Age.** The average age of a pharmaceutical industry employee working in the United States or in Europe is 42 years old (*n* = 973 and 506, respectively). This has been the average age of the respondents of surveys previously conducted by *Pharmaceutical Technology*.

**Work location.** Of 525 respondents working in Europe, 125 (24%) work in the United Kingdom. The number of responses received from those working in other European nations are as follows:

- Austria: 8
- Belgium: 20
- Denmark: 23
- Eastern European countries: 6
- France: 44
- Finland: 14

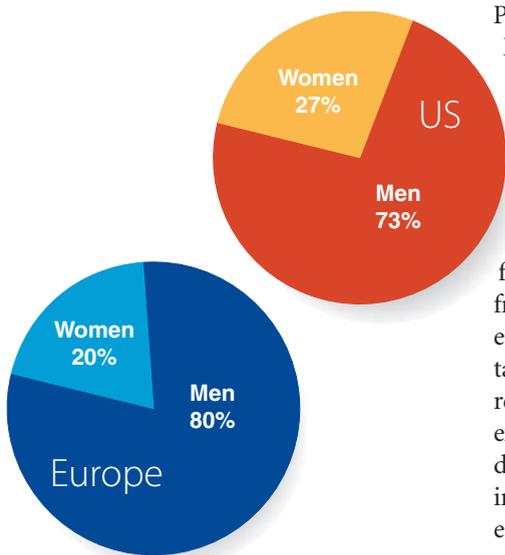


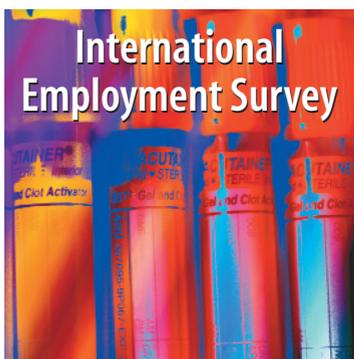
Figure 1

Of the total, workers are predominately men in both Europe and the United States.

tional certification. No one statistic should be used for comparison without taking these factors into account.

### Methodology and statistics

The questionnaire was posted on [www.pharmtech.com](http://www.pharmtech.com) from 10 August to 30 September 2002. Results were



- Germany: 65
- Greece: 9
- Ireland: 41
- Italy: 45
- The Netherlands: 28
- Norway: 7
- Portugal: 5
- Spain: 14
- Sweden: 22
- Switzerland: 35

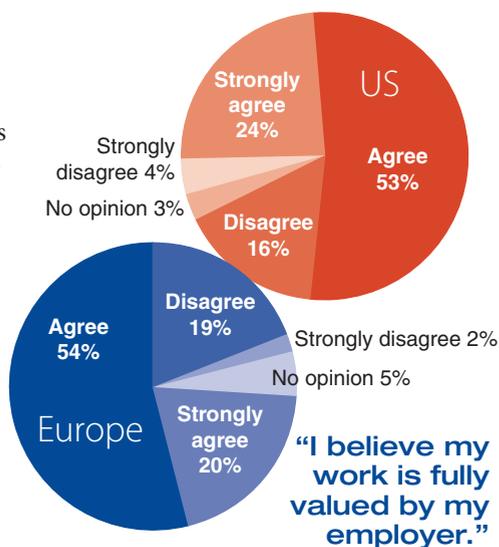
As previously stated, 989 responses were received from industry employees working in the United States. Again, readers should be aware of the number of responses received (sample size) from each region when noting the results of this survey, including salary information.

### Education and professional work experience

Figure 2 shows that a higher percentage of European pharmaceutical employees earned a formal education beyond a bachelor's degree than did their US colleagues. Forty-two percent ( $n = 924$ ) of all respondents working in the United States reported completing their formal education at a bachelor's degree level, compared with 25%

( $n = 515$ ) of European respondents. More than one-third (37%) of European respondents completed a doctorate degree, compared with 27% of respondents working in the United States.

Similar to the results from the previous three surveys, the most common field of study for US respondents was analytical chemistry. Fifteen percent of US respondents reported it as their major field of study. For European respondents, pharmaceuticals or pharmacy was the field of choice, again similar to the results of previous surveys. Twenty-three percent of those working in Europe earned their highest qualifica-

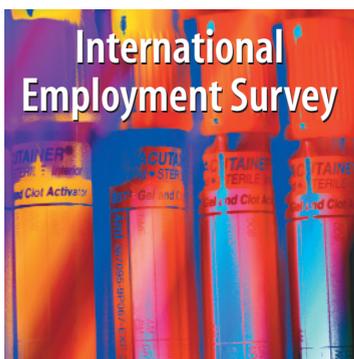


**"I believe my work is fully valued by my employer."**

tion in this field. A significant number of respondents (21% of US and 14% of European) reported their highest qualification was in a field other than those that were listed in the questionnaire.

**Table 1: Profile of the typical pharmaceutical industry employee working in the United States and in Europe.**

	United States	Europe
Gender	Male	Male
Age	42	42
Highest level of education	Bachelor's	Doctorate
Field of study	Analytical chemistry	Pharmaceuticals/pharmacy
Years of professional work experience	16.5	16.5
Type of employer	Private industry	Private industry
Job function	QA/QC	QA/QC
Years at current employer	6	9.6
Hours worked per week	46	45
Holidays taken per year	12	24
Mean base annual salary	\$82,163	\$59,918



# International Employment Survey

Of these, most were in a biotechnology-, biology-, or chemistry-related area, and several respondents indicated they had earned double majors.

Industry employees in the United States and in Europe reported an average of 16.5 years of professional work experience, including postdoctoral study. This value remains unchanged from that of previous surveys.

## Employment

**Type of employer.** A preponderance of US and European respondents are employed in private industry (90 and 88%, respectively;  $n = 979$  and 511, respectively). Those employed in academia represented 6% of European respondents and only 3% of US respondents. The remaining participants were employed in either local or national government. Thus, the information provided in this article, including salary and attitudes toward current employment—discussed later in this article—clearly best represents those working in the private sector.

**Employees in academia.** Of the 57 US responses and 40 European responses from those working in academic institutions, 19 in the US and 20 in Europe hold the position of either full, associate, or assistant professor. Most of those employed in academia (26 and 10, US and Europe, respectively) hold no administrative title.

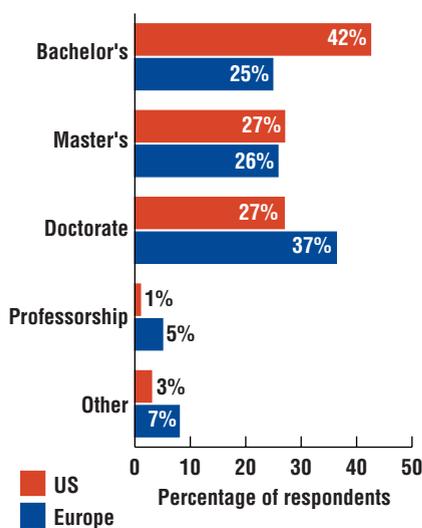


Figure 2

## A majority of industry employees have earned a masters degree or higher.

**Employees in government or private industry.** Out of 882 private-industry employees working in the United States, 76% work in pharmaceuticals as opposed to working in contract services, diagnostics, equipment, nonmanufacturing areas, and excipients/chemicals. Similarly, 81% of private-industry employees in Europe indicated that they work in pharmaceuticals ( $n = 455$ ). Although the survey received few responses from those working in government (19 for US and 18 for Europe), a majority of these (12 and 12, respec-

## Top five job functions\*

### United States

- Quality control/quality assurance
- Pharmaceutical development
- Pharmaceutical analytical development
- Engineering/engineering management
- Validation

### Europe

- Quality control/quality assurance
- Pharmaceutical development
- Engineering/engineering management
- Production management
- Consultant

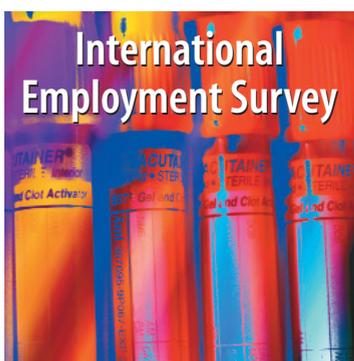
\*ranked according to the number of responses

tively) indicated that they work in pharmaceuticals.

**Job description.** The sidebar “Top five job functions” lists the most common job descriptions. As in the past four years, quality control/quality assurance was the most common field of expertise (19 and 21%,  $n = 977$  and 512, US and Europe, respectively), and pharmaceutical development was the second-most common field of work (12 and 14%, respectively). Nine percent of US respondents work in pharmaceutical analytical development, 8% work in engineering/engineering management, and 7% work in validation. For European respondents, engineering or engineering management (8%), production management (6%), and—appearing for the first time at the top five—consultant services (5%) rounded out the top five.

Interestingly, the number of consultants and the number of engineering/engineering management employees in the pharmaceutical industry have been steadily increasing during the past five years. One would expect this number to rise as the salaries and demand for consultant services and engineers continue to increase (see salary information provided later in this article)—a demand undoubtedly driven by pressures for companies to speed time to market and fatten the bottom line in an unstable global economy and without compromising regulatory compliance.

US and European pharmaceutical employees continue to share similar employment conditions. Ninety-seven percent of US respondents ( $n = 984$ ) and



**Table II: Percentage of respondents indicating the importance of various skills and coursework when evaluating new employee candidates.**

	United States		Europe	
	Important	Not Important	Important	Not Important
<b>Coursework:</b>				
Process validation	49%	51%	67%	33%
Regulatory issues	62%	38%	62%	38%
Sterile products	35%	65%	41%	59%
Isolation technology	20%	80%	23%	77%
<b>Skills:</b>				
Statistical process control	40%	60%	45%	55%
GMPs and GLPs	88%	12%	90%	10%
Biotechnology	39%	61%	34%	66%
Computer database management	43%	57%	52%	48%
Bioengineering	17%	83%	19%	81%
Ethics issues	61%	38%	34%	65%
Microbiology	30%	70%	66%	34%
Chemistry	71%	29%	65%	35%

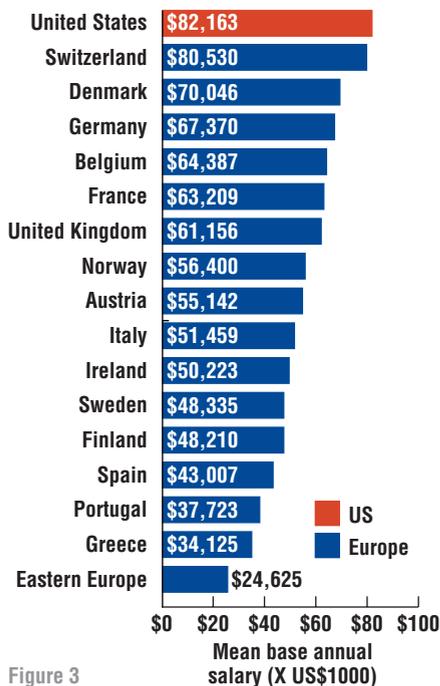
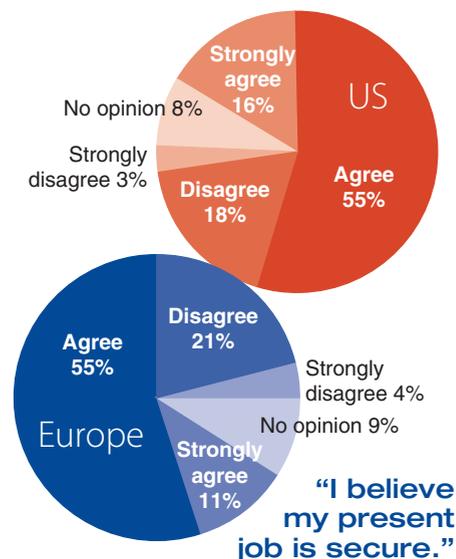


Figure 3

96% of European respondents ( $n = 514$ ) are employed on full-time basis. On average, US and European employees are contracted to work 39 and 38 h per week, respectively, but actually work more than 46 and 45 h per week, respectively. This value has remained unchanged from the results of surveys conducted during the past five years. Eighty-eight percent of US and 85% of European employees indicated that they do not receive financial reimbursement for extra hours worked—a fact also unchanged during the past five years.

Mergers and acquisitions in the pharmaceutical industry continue to have little or no effect on employees' job titles and company affiliations. Sixty-one percent of US and 59% of European employees that had indicated that their job title or affiliation had changed during the past two years reported that it was not a result of mergers and acquisitions and/or downsizing. In fact, most

their current employer about 6 years on average. European respondents reported an average number of 9.6 years with their current employer, the same result reported in last year's survey.



## This year, the **highest salaries** were reported in the United States.

(56% and 49%, US and European respondents, respectively) indicated no change in this area. Industry employees in the United States have worked for

### Salary and benefits

**Overall results.** The mean base annual salary of those employed in the United States was \$82,163 ( $n = 921$ ), which is approximately a 4.7% increase over last year's average of \$78,470. This value does not include bonuses, overtime, salary from a secondary job, or other supplemental income. Employees in the United States reported an average additional income from their principal

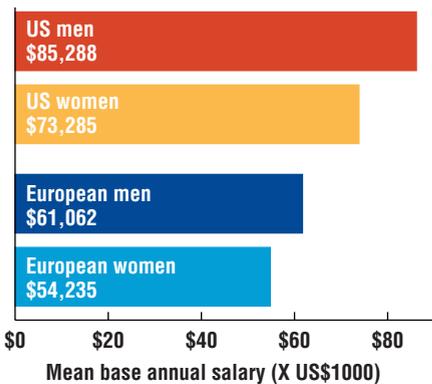
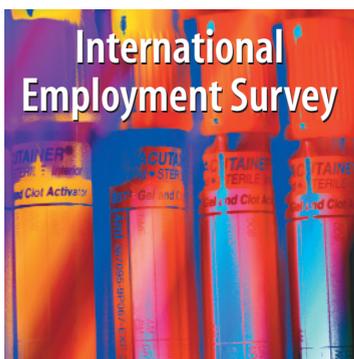
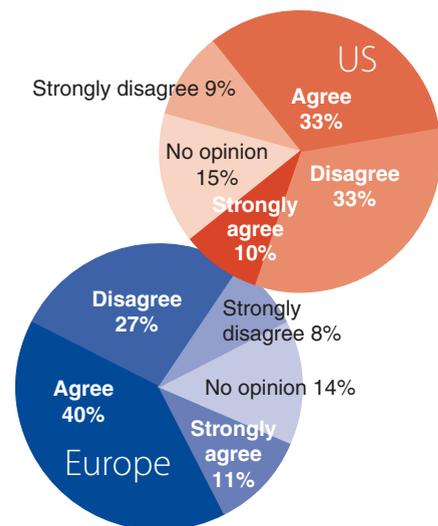


Figure 4

## In both Europe and the United States, men were paid more than women.



“Given the opportunity, I would leave my present job.”

employer of \$9161, including bonuses, summer work, and grants, and an average additional income from other professional work of \$1554.

The mean base annual salary for those employed in Europe was \$59,918 ( $n = 445$ ), which is an increase of more than 9.2% over last year’s reported value of \$54,854. This value does not include bonuses, overtime, salary from a secondary job, or other supplemental income.

Employees in Europe reported an average additional income from their principal employer of \$6263, including bonuses, summer work, and grants, and an average additional income from other professional work of \$1364.

**Salary according to location.** Figure 3 shows annual salaries according to geographic region of employment. For European respondents, the range varies from an average of \$80,530 for those working in Switzerland to \$24,625 for those working in Eastern European

countries. The reported average salaries from respondents working in Eastern European countries, Austria, Belgium, Denmark, France, Germany, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, and the United States were higher this year than the average salaries in these areas reported last year.

**Salary according to gender only.** Figure 4 shows that, on average, US men continue to earn more overall than do US women by slightly more than \$12,000 (\$85,288 versus \$73,285), more than a 16% gap. The gap between European men and women’s salary is slightly less, though not by much, than the salary gap between US men and women. European men reported an average base salary of \$61,062 per year, and women reported an average base salary of \$54,235, a difference of more than 12%.

**Salary according to job function.** Figure

### “Top reasons why I would change jobs”

United States	Europe
Income	Income
Geographic location	Professional advancement
Professional advancement	Intellectual challenge
Job environment	Geographic location
Job security	Job environment

### “Least important factors I would consider”

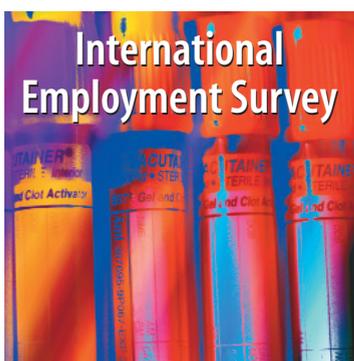
United States	Europe
Holiday entitlement	Health insurance
Scientific opportunities	Holiday entitlement
Pensions	Scientific opportunities
Health and safety	Pensions
Health insurance	Geographic location; health and safety (tie)

5 shows the mean base annual salaries according to job function. The five highest paying jobs in the United States were in production management, bulk pharmaceutical chemicals, consultant services, finished dosage-form manufacturing, and (a tie) engineering/engineering management and pharmaceutical development. Most fields in the United States had an increase in their mean base annual salaries compared with the values reported in last year’s survey. The highest paying job in Europe was in drug delivery (\$74,688). Several areas (job functions) of industry employees working in Europe provided annual base salaries of approximately \$64,000, including bulk pharmaceutical chemicals, consultant services, production management, and quality control/quality assurance.

**Benefits.** The most common benefits received both by US and European respondents included health insurance for themselves and for their families, employer contribution toward their pensions, share options, and training fees (see Figure 6). Moreover, US respondents are granted an average of 14 days of paid holiday time during the calendar year but took only 12 of those days during 2001. European respondents were granted an average of 36 days of paid holiday time during the calendar year but took only 25 of those days during 2001.

### Attitudes toward current employment

Participants in this year’s survey were asked how strongly they agree or dis-



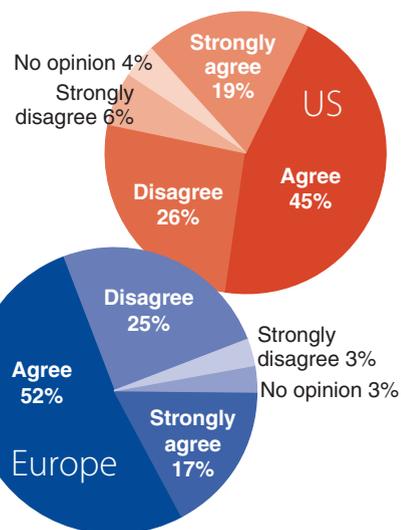
agree with the following:

- Their employer values their work.
- Their present job is secure.
- They use their skills and training to the fullest extent.
- They would leave their present job if given the opportunity.

Overall responses to these questions are shown in pie charts throughout this article. Most US and European respondents continue to

feel secure in their jobs, agree that their employer values their work, and believe that they use their skills to the fullest extent in their present jobs. However, respondents are notably more reserved this year than in past years when expressing that they either agree or disagree strongly to each question.

In particular, the question of job security can be an indication of how employees feel about the current state of the local or global economies. Interestingly, in last year's survey, 27% of US respondents indicated that they strongly agree that their job is secure. This year, however, the value was only 16%. In fact, the percentage of those that either



**“In my present job, I use my skills and training to the fullest extent.”**

timistic about the staying power of their current positions. In fact, given the opportunity, only 43% of US respondents would leave their present employment, a decrease from 51% from last year's survey.

For US and European respondents, the major motivating factor behind the desire to leave their current jobs means the opportunity to make more money (see sidebar “Top reasons why I would change jobs”). This importance on income has remained unchanged since the first annual international survey. In fact, US and European respondents indicated almost the same five most important factors they would consider in changing jobs, namely, income, geographic location, professional advancement, and job environment. However, for the first time, job security is one of the top five factors for those employed in the United States, beating out the intellectual challenge category. US and European respondents indicated similar least important factors that would influence their decision to change employment, namely, holiday entitlement, scientific opportunities, pensions, and health and safety.

**Preferred employer.** The majority of US and European employees (64% and 55%, respectively) believe it is unlikely or very unlikely they will change employment within the next year. Most US and European employees prefer to

	US	Europe
Validation	\$76,261	\$46,728
Technology transfer	\$86,452	\$53,317
Regulatory compliance	\$85,025	\$56,958
Quality control/assurance	\$69,650	\$64,031
Production R&D	\$89,682	\$56,956
Production management	\$107,183	\$64,459
Preformulation	\$77,400	*
Pharmaceutical development	\$91,003	\$59,003
Pharmaceutical analytical development	\$76,308	\$45,470
Packaging	\$71,658	\$51,000
Finished dosage-form manufacturing	\$92,872	\$60,675
Engineering/engineering management	\$91,008	\$52,495
Education	\$76,320	\$48,544
Drug stability	\$56,440	*
Drug metabolism	\$61,086	*
Drug delivery	\$84,657	\$74,688
Consultant	\$99,043	\$63,729
Computer IS/IT	\$82,285	\$58,333
Biopharmaceutics	\$80,440	\$57,733
Bulk pharmaceutical chemicals	\$104,676	\$64,766

Figure 5

\* Insufficient data

## Production managers in the United States earned the highest base annual salaries last year.

disagree or strongly disagree has increased from 17% last year to nearly 23% this year. In Europe, the outlook about job security is even more grim. Last year, 22% of respondents in Europe indicated that they strongly agree that their job is secure. However, this year, the result is nearly cut in half at 11%. Clearly, industry employees in both the United States and in Europe are less op-

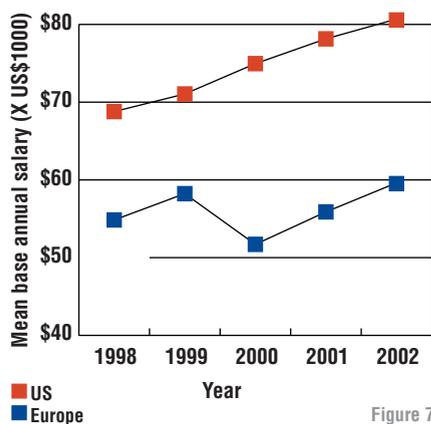


Figure 7

## Wages increased in both Europe and the United States.

remain with their current type of employer. In fact, 91% of all US and 87% of all European respondents prefer to work in private industry.

### Evaluating employment candidates

The survey asked participants to indicate the importance of various educational backgrounds and skills when considering the hire of new pharmaceutical employees. Table II shows how various skills and educational backgrounds are valued. Knowledge of good manufacturing practices and good laboratory practices continues to be the most important factor when evaluating employment candidates. Skills in chemistry also were highly valued in both the United States and in Europe. Interestingly, and perhaps not surprisingly, ethics was an aspect of greater importance to those employed in the United States than for those employed in Europe. Last year, only 44% of US respondents considered ethics to be important; this year, the value is 61%—and only 34% of European respondents. Clearly, the corporate scandals and cries for responsibility among the ranks have influenced the current working environment. Of course, the importance of each skill or educational coursework depends on the type of employment and area of expertise.

### Conclusion

Results of this year's survey are very similar to the results of past employment surveys, and employment conditions continue to be stable worldwide. For example, although both US and European employees saw an overall increase in average annual salaries during the past year (see Figure 7), women in aggregate continue to earn less than do their male colleagues. Pharmaceutical industry employees overall seem secure in their jobs, though one can sense from the data that respondents are less optimistic about the security of their jobs than they have been in previous years. However, most respondents continue to believe it is unlikely that they will change employment in the coming year.

During the past five years, through changes in political, economic, and regulatory climates, very little has changed: Pharmaceutical employees continue to work more hours, without extra pay; they take fewer vacation days than they are allowed; and, although they may disagree that they use their skills and training to the fullest extent, the majority believe that

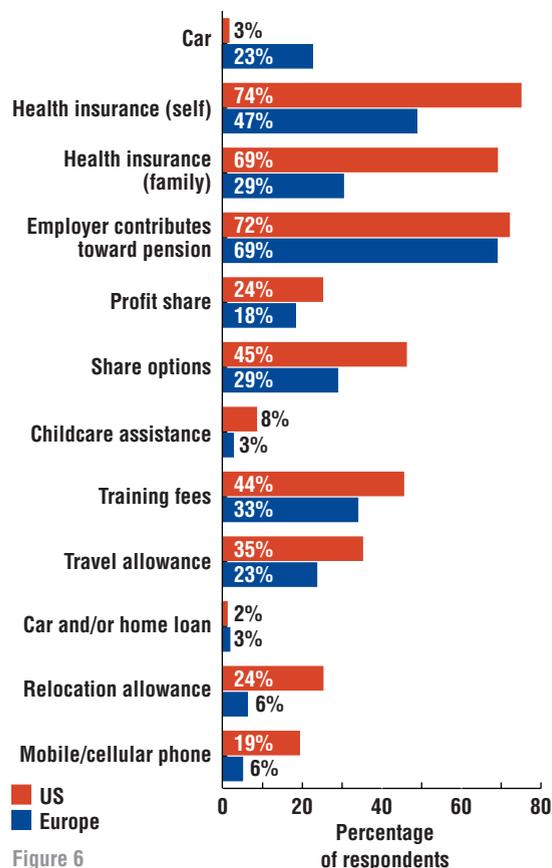


Figure 6

## Health insurance is the most important benefit to workers in the US. Europeans value pension contributions.

their employer fully values their work and prefer to stay within their current type of employment.

The editors of *Pharmaceutical Technology* and *Pharmaceutical Technology Europe* hope the results presented in this article provide an insight into the employment issues most important to you, our readers. Thank you to the participants of this survey and best wishes for continued success in 2003. **PT**