



Staying the Course

Maribel Rios

Despite continued industry-wide layoffs in manufacturing jobs during the past year, the pharmaceutical industry workforce continues a slow and steady pace.

The sixth international employment survey reports on the issues directly related to those working in the pharmaceutical industry, including demographic information, 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. Industry workers located in other countries also participated in the survey. Of these, only responses from those working in Canada were of sufficient number (27) to calculate an average base annual salary.

When comparing salary and benefits information, 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 educational 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 from 1 August to 30 September 2003. Results were exported and separated according to the respondents' geographic region of employment (United States, including Puerto Rico, or Europe). A total of 1619 responses were received. Of these, 1251 were from pharmaceutical employees working in the United States, 262 were from those working in Europe, and 106 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 is available on-line at 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 1501 total responses to this question, 69% were from men and 31% were from women. Figure 1 shows that the pharmaceutical workforce consists mostly of men by a 2:1 ratio in the United States and at least a 4:1 ratio in Europe.

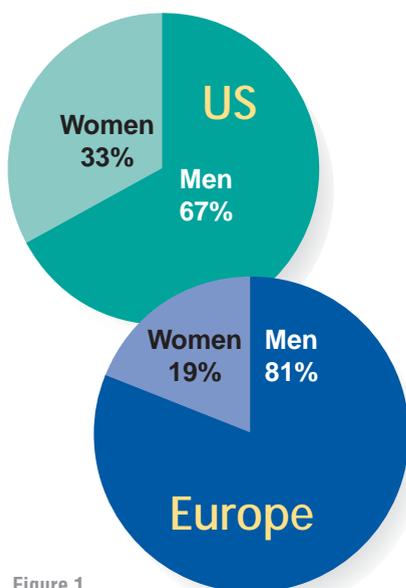


Figure 1

Age. The average age of an industry employee working in the United States or in Europe is 42 years. This result remains unchanged from previous surveys.

Work location. Of 249 respondents working in Europe, 71 (28%) work in the United Kingdom. The number of responses received from those working in other European nations are as follows:

- Austria: 2
- Belgium: 13
- Denmark: 8
- Eastern European countries: 7
- France: 13
- Finland: 6
- Germany: 21
- Greece: 3
- Ireland: 17
- Italy: 18
- The Netherlands: 13
- Norway: 2
- Portugal: 4
- Spain: 16
- Sweden: 18
- Switzerland: 17

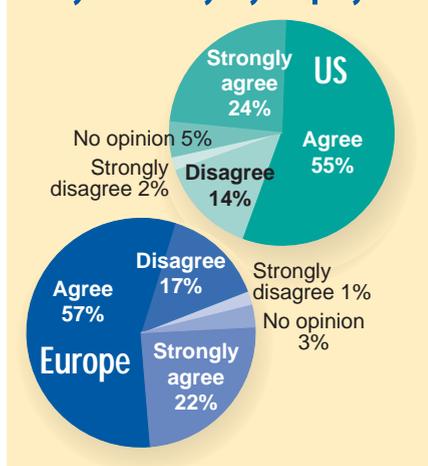
In addition, 27 respondents indicated they are working in Canada. As previously stated, 1251 responses were received from those working in the United States. Again, readers should be aware of the number of responses received (sample size) from each region when noting the results of this survey, including reported salary results.

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-nine percent ($n = 1244$) of all respondents working in the United States reported completing their formal education at a bachelor's degree level, compared with 26% ($n = 251$) of European respondents. Nearly one-third (31%) of European respondents completed a doctorate degree, compared with 22% of US respondents.

The most common field of study for US respondents was analytical chemistry. Fourteen percent of US respondents reported it as their major field of study. For European respondents, pharmaceuticals or pharmacy was the academic field. Twenty-one percent of those working in Europe earned their highest qualification in this

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



field. A significant number of respondents (23% US and 9% European) reported their highest qualification was in a field other than those that were listed in the questionnaire. Of these, most were in biotechnology-, biology-, or chemistry-related areas, and several respondents indicated they had earned doubled majors.

Pharmaceutical industry employees in the United States and in Europe reported an average of 16.4 and 18.0 years of professional work experience, respectively, including postdoctoral study.

Employment

Type of employer. A preponderance of US and European respondents are employed in private industry (89% for each group). Those employed in academia represented 4% 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 clearly best represents those working in the private sector.

Employees in academia. Of the 78 US and 22 European responses from those working in academic institutions, 17 in the US and 9 in Europe hold the position of either full, associate, or assistant professor. Most of those employed in academia hold no administrative title and are not a department head or dean.

Employees in government or private industry. Out of 1124 private-industry employees working in the United States, 82%

Top five job functions*

United States

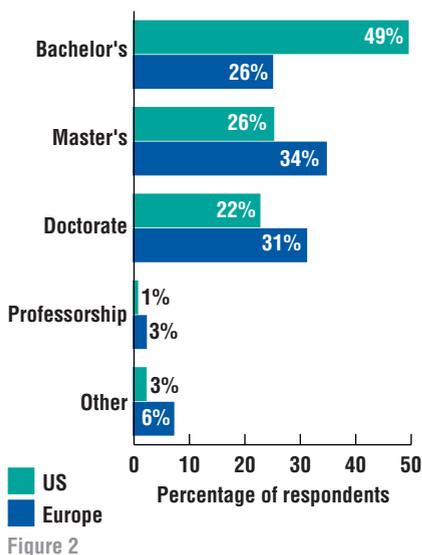
Quality control/quality assurance
Pharmaceutical development
Pharmaceutical analytical development
Engineering/engineering management
Validation

Europe

Quality control/quality assurance
Pharmaceutical development
Engineering/engineering management
Biopharmaceutics
Consultant

*ranked according to the number of responses

International Employment Survey 2003

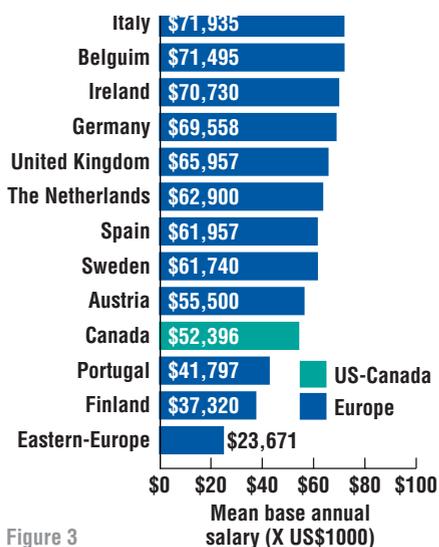


work in pharmaceuticals as opposed to working in contract services, diagnostics, equipment, nonmanufacturing areas, or excipients/chemicals. Similarly, 84% of private-industry employees in Europe indicated that they work in pharmaceuticals ($n = 230$). Although the survey received only 36 responses from those working in the US government, 21 indicated that they work in pharmaceuticals. Similarly, the two responses received from those working in European government indicated they work in pharmaceuticals.

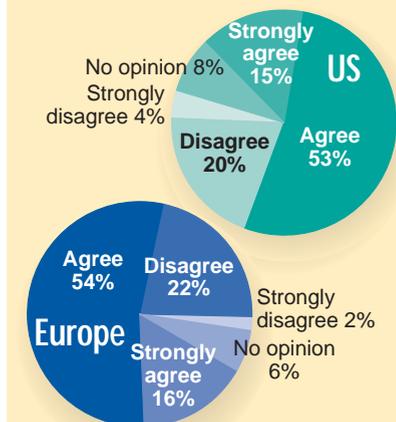
Job description. The sidebar "Top five job functions" lists the most common job descriptions. As in the survey results of the past five years, quality control/quality assurance was the most common field of expertise (18 and 20%, $n = 1237$ and 253, US and Europe, respectively), and pharmaceutical development was the second-most common field of work (13 and 12%, respectively). Ten percent of US respondents work in pharmaceutical analytical development, 8% work in engineering or engineering management, and 6% work in validation. For European respondents, engineering/engineering management (7%), biopharmaceuticals (5%), and consultant services (5%) rounded out the top five.

US and European pharmaceutical employees continue to share similar employment environments. Ninety-seven percent of US respondents ($n = 1243$) and 96% of European respondents ($n = 253$) are employed full-time. On average, US and European employees are contracted to work 40 and 38 hours per week, respectively, but actually work more than 46 and 45 hours per week, respectively. Ninety-one percent of US and 85% of European employees indicated that they do not receive financial reimbursement for extra hours worked.

On average, US employees have worked for their current employer for 6.8 years. European respondents reported an average number of 10.6 years with their current employer. However, for the first time, results reveal that the majority of respondents in the United States (53%) have changed their job title during the past two years. A majority (64%) of these changes were not the result of mergers, acquisitions, or downsizing. Most (58%) employees in Europe have not changed their title or company affiliation during the past



"I believe my present job is secure."



two years. Of those who did indicate a change, 75% said the change did not result from a merger, acquisition, or company downsizing.

Salary and benefits

Overall results. The mean base annual salary of those employed in the United States was \$84,477 ($n = 1197$), which is approximately a 2.8% increase over last year's average of \$82,163. Although this increase is notably lower than the 4.5–5.9% annual increases during the 1999–2002 time period, it is well in tune with the 2.5% average increase recently reported by the US Department of Labor so far for 2003. This base annual salary 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 employer of \$8689, including bonuses, summer work, and grants, and an average additional income from other professional work of \$1448.

The mean base annual salary for those employed in Europe was \$70,131 ($n = 234$), which is an increase of more than 17% over last year's reported value of \$59,918. This percentage increase is the largest reported since 2000. 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 \$10,189 (also an increase from last year's value of \$6263), including bonuses, summer work,



Table I: 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	Masters
Field of study	Analytical chemistry	Pharmaceutics/pharmacy
Years of professional work experience	16	18
Type of employer	Private industry	Private industry
Job function	QA/QC	QA/QC
Years at current employer	6.8	10.6
Hours worked per week	46	45
Vacation days taken per year	12	23
Mean base annual salary	\$84,477	\$70,131

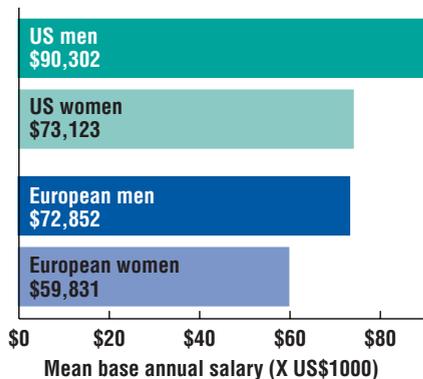


Figure 4

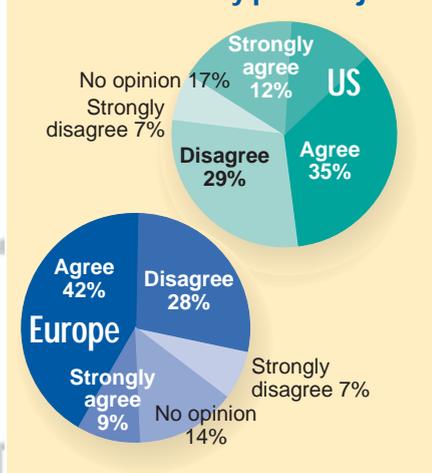
and grants, and an average additional income from other professional work of \$158.

Salary according to location. Figure 3 shows annual salaries according to geographic region of employment. For the first time, the average salary of respondents working in Canada is included ($n = 27$). For respondents working in Europe, the range varies from an average of \$104,812 for those working in Switzerland to \$23,671 for those working in Eastern European countries. The reported average salaries from respondents working in nearly every European country, except Eastern Europe, were higher this year than those reported last year. However, one must also take into account that there were significantly fewer responses from employees in Europe than there were last year, so the mean values are less likely to be truly representative.

Salary according to gender only. Figure 4 shows that, on average, US women working full time earn 81% of the average salary reported by US men working full time. The gap between men's and women's salaries is slightly more than it was in last year's survey. This is also true for men and women working in Europe. On average, European women working full time earn 82% of the average salary reported by their male colleagues working full time. Interestingly, these values are approximately equal to the 79.8% value reported in the third quarter 2003 by the US Department of Labor for other job markets.

Salary according to job function. Figure 5 shows the mean base annual salaries according to job function. The five highest

"Given the opportunity, I would leave my present job."



paying jobs in the United States were in consulting, production management, bulk pharmaceutical chemicals, drug delivery, and technology transfer. 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 computer IS/IT, with an average salary of \$86,250, which is more than 45% higher than the reported average last year. Several job functions of those working in Europe provided annual base salaries in the mid \$60–70,000 range.

Benefits. The most common benefits received both by US and European respondents is employer contribution toward their pensions and health insurance for themselves (see Figure 6). Moreover, US respondents are granted an average of 14 days of paid holiday time during the cal-



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
Coursework:				
Process validation	50%	50%	61%	39%
Regulatory issues	61%	39%	65%	35%
Sterile products	35%	65%	36%	64%
Isolation technology	22%	78%	19%	81%
Skills:				
Statistical process control	44%	56%	32%	68%
GMPs and GLPs	86%	14%	90%	10%
Biotechnology	43%	57%	28%	72%
Computer database management	46%	54%	46%	54%
Bioengineering	17%	83%	21%	79%
Ethics issues	34%	66%	32%	68%
Microbiology	32%	68%	32%	68%
Chemistry	73%	27%	65%	35%

endar year but took only 12 of those days during 2002. European respondents were granted an average of 26 days of paid holiday time during the calendar year but took only 23 of those days during 2002.

Attitudes toward current employment

Participants in this year's survey were asked how strongly they agree or disagree 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.

Although most US and European respondents agree that their employer values their work and that they use their skills to the fullest extent, the question about job security brought some interesting results. The responses to this question experienced approximately a 2% shift from those who agree or strongly agree that their

"Top reasons why I would change jobs"

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

"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	Health and safety

job is secure to those who would disagree or strongly disagree. This is a trend that has been consistent during the past two years. In contrast, there was at least a 5% increase over last year in the number of employees working in Europe who strongly agreed their job is secure. Results also show that, given the opportunity, 47% of US respondents would leave their present employment, an increase from 43% revealed in last year's survey. Similarly, half of the respondents from Europe would leave their present job if given the opportunity, a result unchanged from last year.

The major motivating factor behind the desire to leave their current jobs is again the opportunity to earn a higher salary (see sidebar "Top reasons why I would change jobs"). This importance on income has remained unchanged since the first annual survey. In fact, US and European

	US	Europe
Bulk pharmaceutical chemicals	\$93,710	\$45,425
Biopharmaceutics	\$89,564	\$81,916
Computer IS/IT	\$88,500	\$86,250
Consultant	\$117,537	\$80,000
Drug delivery	\$93,009	\$73,583
Drug metabolism	\$80,628	*
Drug stability	\$72,439	*
Education	\$67,350	\$50,200
Engineering/engineering management	\$91,090	\$77,833
Finished dosage-form manufacturing	\$91,131	\$71,357
Packaging	\$78,258	\$62,500
Pharma analytical development	\$73,886	\$73,330
Pharmaceutical development	\$89,203	\$57,179
Preformulation	\$80,200	*
Production management	\$96,135	\$74,676
Production R&D	\$77,089	\$64,500
Quality control/assurance	\$77,008	\$73,140
Regulatory compliance	\$86,497	\$57,499
Technology transfer	\$91,657	\$75,571

Figure 5

* Insufficient data



respondents indicated almost the same five most important factors they would consider in changing jobs, namely, income, geographic location, professional advancement, and job security. However, the issue of job security appears to be an increasing concern for both US and European workers. US and European respondents overall indicated similar least important factors that would influence their decision to change employment.

Preferred employer. The majority of US and European employees (61% and 58%, respectively) believe it is unlikely or very unlikely they will change employment within the next year. Most US and European employees prefer to remain with their current type of employer. In fact, 91% of US and European respondents currently working in private industry prefer to remain in private industry. The second preferred area is government.

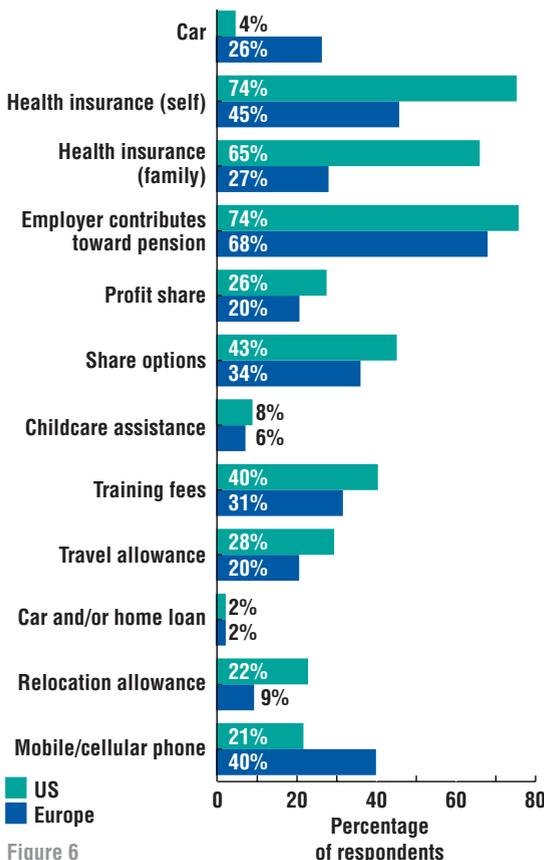


Figure 6

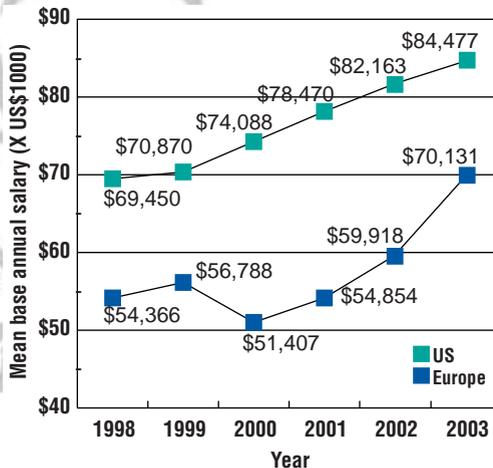
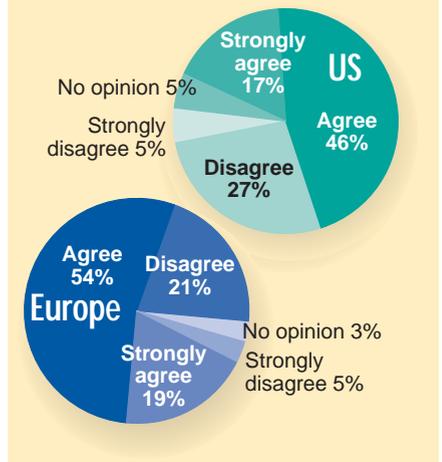


Figure 7

Evaluating employment candidates

The survey asked participants to indicate the importance of various educational backgrounds and skills when considering the hire of new employees. Table II shows how various skills and educational backgrounds are valued. Good manufacturing practices and good laboratory practices continue to be the most important factor when evaluating employment candidates. Coursework in regulatory issues was also highly valued, as were skills in chemistry.

"In my present job, I use my skills and training to the fullest extent."



Conclusion

Although both groups saw an increase in average annual salaries during the past year, US respondents received a only small if any increase in their salaries over last year (an average of 2.8%). In contrast, employees in Europe reported salaries that were 17% higher than they were last year. Women in aggregate continue to earn less than do their male colleagues. Pharma industry employees overall seem secure in their jobs, though this percentage continues to decline. Still, most respondents believe it is unlikely that they will change employment in the coming

year. Moreover, pharmaceutical employees continue to work more hours, without extra pay, than they are contracted to work; they take less vacation days than they are allowed; and, although they don't feel that they use their skills and training to the fullest extent, the majority believe that their employer fully values their work and prefer to stay within their current type of employment. **PT**