

# 2011 ASHP Pharmacy Staffing Survey Results

## Background

ASHP has surveyed pharmacy directors since 1999 to determine the supply of and demand for pharmacists and pharmacy technicians in hospitals and health systems, and to measure perceptions about pharmacist workforce shortages. A core set of questions was designed to measure trends, and other questions were added as needed to gather information on staffing-related issues. Beginning in 2007, ASHP discontinued the stand-alone staffing survey and instead included the core questions in the more comprehensive ASHP National Survey of Pharmacy Practice in Hospitals. This report reflects only the information specific to staffing from that survey. A more complete reporting of data, methodology, and results can be found in the *American Journal of Health-System Pharmacy* (Pedersen CA, Schneider PJ, Scheckelhoff DJ. ASHP National Survey of Pharmacy Practice in Hospital Settings: Dispensing and Administration—2011. *Am J Health-Syst Pharm.* 2012; in press).

Since 2007, the staffing survey data have been weighted to represent all

## Key Findings

- The reported vacancy rate for pharmacist positions in hospitals and health systems was 2.4%, while the vacancy rate for pharmacy technicians was 3.5%.
- The average turnover rate in 2011 was 6.1% for pharmacists and 13.1% for pharmacy technicians.
- Turnover and vacancy rates for pharmacists remained relatively equivalent regardless of hospital size.
- The number of integrated pharmacists rebounded in the past year, from 5.69 in 2010 to 8.21 in 2011.

general and children's medical surgical hospitals in the United States. This is a different method than what was used in previous staffing surveys (straight averages); therefore, for consistency, data from 2002-2006 were reanalyzed using the method adopted in 2007. Because of this, comparison to previously published reports may show slight differences.

## Detailed Results

### Vacancy Rates

The average pharmacist vacancy rate in health systems in 2011 was 2.4%. This is similar to the previous year's

rate of 2.8% and represents a 10-year low (Tables 1 and 2). The average pharmacy technician vacancy rate in 2011 was 3.5%, unchanged from the previous year's rate of 3.6%. The average vacancy rate was calculated by dividing the number of vacant full-time equivalent (FTE) positions by the total number of FTE positions. Smaller hospitals had a slightly greater percentage of vacant pharmacy technician positions compared with larger hospitals. However, pharmacist position vacancy rates remained relatively equivalent regardless of hospital size (Table 1).

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**Table 1. Inpatient Pharmacy Staffing in Prior Fiscal Year**

Characteristic	Mean ± S.E.			
	No. FTE Pharmacists per 100 Occupied Beds	% Vacant FTE Pharmacist Positions <sup>a</sup>	No. FTE Technicians per 100 Occupied Beds	% Vacant FTE Technician Positions
Number of staffed beds				
<50	26.2±3.0	2.3	21.7±2.2	3.0
50–99	17.1±2.1	2.9	15.9±1.5	5.5
100–199	12.5±1.4	2.3	10.6±1.0	4.9
200–299	10.6±0.4	2.3	9.7±0.4	2.8
300–399	11.2±0.5	3.3	9.8±0.5	2.5
400–599	10.9±0.5	1.6	9.2±0.4	2.8
≥600	10.5±0.4	2.6	9.0±0.4	3.8
All hospitals–2011	17.5 ±1.1	<b>2.4</b>	15.0±0.8	<b>3.5</b>

<sup>a</sup> FTE = full-time equivalent

**Table 2. Comparison of Vacancy Rates for Pharmacists and Pharmacy Technicians from 2002 to 2011**

	2011	2010	2009	2008	2007	2006 <sup>a</sup>	2005 <sup>a</sup>	2004 <sup>a</sup>	2003 <sup>a</sup>	2002 <sup>a</sup>
Pharmacists	2.4	2.8	3.7	5.9	6.3	5.7	6.3	5.7	4.7	7.2
Pharmacy technicians	3.5	3.6	4.1	4.7	4.1	-	-	-	-	-

<sup>a</sup> Data from 2002 to 2006 were reanalyzed using the method adopted in 2007 for consistency. The rate is calculated as number of vacant FTE positions / total FTE positions. All data reported are from the ASHP National Surveys.

### Turnover Rates

The turnover rate for health-system pharmacist positions in 2011 was 6.1%, and the rate was 13.1% for pharmacy technicians (Table 3). Although there was a slight increase in turnover rates in 2011, the turnover rates for both pharmacists

and pharmacy technicians were comparable with the rates for recent years (Table 4). The turnover rate for pharmacists and pharmacy technicians was calculated by dividing the number of FTE resignations in the previous 12 months by the total number of FTE positions.

As in previous years, larger hospitals reported less pharmacist turnover compared with smaller hospitals. There was no noticeable trend relating hospital size to pharmacy technician turnover (Table 3).

**Table 3. Hospital Pharmacy Staff Turnover in Prior Fiscal Year**

Characteristic	Pharmacist Turnover Rate <sup>a</sup>	Pharmacy Technician Turnover Rate <sup>a</sup>
	%	%
Number of staffed beds		
<50	9.3	14.7
50–99	7.1	10.4
100–199	5.9	14.3
200–299	5.5	10.8
300–399	6.9	16.2
400–599	5.5	12.6
≥600	5.0	12.6
All hospitals – 2011	<b>6.1</b>	<b>13.1</b>

<sup>a</sup> Calculated as the number of FTE resignations and terminations divided by the total number of FTE positions.

**Table 4. Pharmacist and Pharmacy Technician Turnover Rates from 2002 to 2011<sup>a</sup>**

	2011 <sup>b</sup>	2010 <sup>b</sup>	2009 <sup>b</sup>	2008 <sup>b</sup>	2007 <sup>b</sup>	2006 <sup>c</sup>	2005 <sup>c</sup>	2004 <sup>c</sup>	2003 <sup>c</sup>	2002 <sup>c</sup>
Pharmacists	6.1	5.7	6.6	8.6	7.6	9.0	8.5	7.5	7.5	8.5
Pharmacy technicians	13.1	12.1	13.4	13.8	13.6	12.4	12.9	11.8	13.3	12.3

<sup>a</sup> Calculated as the mean number of resignations divided by the number of currently budgeted positions.

<sup>b</sup> Weighted to represent all U.S. general and children’s medical surgical hospitals.

<sup>c</sup> Data from 2002 to 2006 used a different method for analysis (straight averages); therefore, direct statistical comparison is impossible.

**Time Required to Fill Vacancies**

Smaller hospitals took longer to fill vacancies of pharmacist positions than larger hospitals did; 6.2 months

compared to 2.8 months, respectively (Table 5). The number of months required to fill vacancies of pharmacy technician positions has remained stable over recent years. The number

of months required to fill vacant pharmacist positions shows a slight but consistent decline (Table 6).

**Table 5. Mean Time Required to Fill Vacancies**

Characteristic	Time to Fill Vacant Pharmacist Positions (months)	Time to Fill Vacant Pharmacy Technician Positions (months)
Number of staffed beds		
<50	6.2	1.8
50–99	4.4	1.8
100–199	3.8	1.8
200–299	2.7	1.7
300–399	3.0	1.6
400–599	3.1	1.6
≥600	2.8	1.6
All hospitals – 2011	<b>3.9</b>	<b>1.8</b>

**Table 6. Time Required to Fill Pharmacist and Pharmacy Technician Vacancies from 2002 to 2011**

	2011	2010	2009 <sup>a</sup>	2008 <sup>a</sup>	2007 <sup>b</sup>	2006	2005	2004	2003	2002
Pharmacists	3.9	4.4	5.1	7.0	-	6.0	6.5	5.3	5.8	5.7
Pharmacy technicians	1.8	1.7	1.8	2.0	-	1.8	1.8	1.8	1.9	1.8

<sup>a</sup> Weighted to represent all U.S. general and children’s medical surgical hospitals.

<sup>b</sup> Data was not collected.

**Perceptions of Supply and Demand**

Subjective answers from pharmacy directors when questioned about the relative availability of pharmacists

and pharmacy technicians show that there continues to be a perception of an overall shortage (Tables 7 and 8). Table 7 shows that the positions reflecting the most significant level of

perceived shortage were pharmacy management positions (75%), clinical coordinator positions (54%), and experienced pharmacy technician positions (57%). Clinical specialists and

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experienced frontline pharmacists were considered to be in a shortage situation by 43–50% of pharmacy directors, while entry-level frontline pharmacist positions and entry-level pharmacy technician positions were considered more balanced. Based on the rate of moderate to severe per-

ceived shortage that has been reported over recent years, filling pharmacy manager positions continues to be difficult, while entry-level technician positions have remained relatively stable in their difficulty to fill (Table 8). It is notable, however, that the percentage of respondents who re-

port moderate or severe shortage continued to decline for all positions in 2011. The change in pharmacy directors' perceptions of availability of entry-level frontline pharmacists was particularly striking, swinging from 33% in 2010 to 17% in 2011 (Table 8).

**Table 7. Pharmacy Directors' Perceptions of Availability**

Pharmacy Position	Perceived Shortage %	Perceived Balance %	Perceived Excess %
Manager <sup>a</sup>	75	23	2.3
Clinical coordinator	54	40	7
Clinical specialist	44	43	14
Entry-level frontline pharmacist	17	44	39
Experienced frontline pharmacist	50	38	13
Entry-level pharmacy technician	14	40	45
Experienced pharmacy technician	57	32	11

<sup>a</sup> The term "manager" encompasses director/assistant director/supervisor.

**Table 8. Pharmacy Directors' Perceptions of Moderate or Severe Shortage from 2002 to 2011<sup>a</sup>**

Pharmacy Position	2011	2010	2009	2008	2007 <sup>c</sup>	2006	2005	2004	2003	2002
Manager <sup>b</sup>	75	83	82	90	-	87	84	74	74	74
Clinical coordinator <sup>d</sup>	54	56	66	72	-	65	67	-	-	-
Clinical specialist	44	49	63	70	-	63	64	67	71	71
Entry-level frontline pharmacist	17	33	45	75	-	71	71	75	84	84
Experienced frontline pharmacist	50	64	75	89	-	93	89	90	93	93
Entry-level pharmacy technician	14	17	16	25	-	17	21	22	31	31
Experienced pharmacy technician	57	60	58	67	-	87	69	74	77	77

<sup>a</sup> Represents responses of a perceived "moderate" or "severe" shortage combined.

<sup>b</sup> The term "manager" encompasses director/assistant director/supervisor.

<sup>c</sup> Data was not collected.

<sup>d</sup> The position of clinical coordinator was added to the survey in 2005.

**FTE Positions for Pharmacy**

The number of pharmacist and pharmacy technician positions classified as FTE per every 100 occupied beds is shown in Table 9.

**Table 9. Number of FTE Pharmacy Positions per 100 Occupied Beds by Type of Position<sup>a</sup>**

Staffed beds	n	Management Pharmacists	Clinical Pharmacists	Distributive Pharmacists	Integrated Pharmacists	Informatics Pharmacists	Medication-Use Safety Coordinator Pharmacists	Other Pharmacists	Residents	TOTAL Pharmacists	TOTAL Pharmacy Technicians
<50	99	6.58	2.99	3.28	12.44	0.70	0.16	0.09	0.00	26.24	21.70
50-99	81	3.23	0.95	4.12	8.15	0.29	0.06	0.07	0.20	17.07	15.87
100-199	69	1.78	1.26	2.80	6.05	0.26	0.21	0.06	0.11	12.52	10.60
200-299	74	1.24	1.10	2.23	5.22	0.31	0.07	0.05	0.33	10.57	9.68
300-399	63	1.22	1.64	2.90	4.54	0.35	0.08	0.07	0.45	11.24	9.82
400-599	89	1.10	1.36	2.99	4.33	0.29	0.09	0.21	0.51	10.88	9.19
≥600	63	0.94	2.04	2.92	3.32	0.22	0.09	0.20	0.80	10.53	9.04
All hospitals – 2011	538	3.51	1.87	3.11	8.21	0.43	0.13	0.09	0.18	17.53	14.97
All hospitals – 2010	511	3.20	2.00	3.61	5.69	0.36	0.20	0.06	0.29	15.41	13.24
All hospitals – 2009	520	3.60	1.10	3.07	9.87	0.30	0.06	0.06	0.35	18.41	16.91
All hospitals – 2008	516	2.67	1.15	2.99	6.71	0.18	0.09	0.07	0.23	14.2	13.1
All hospitals – 2007	501	2.66	1.14	3.26	5.51	0.26	0.13	0.13	0.11	13.2	13.0
All hospitals – 2006	434	2.60	1.04	3.09	7.94	0.21	0.08	0.03	0.13	15.1	11.8
All hospitals – 2005	505	2.5	1.0	3.4	5.1	0.2	0.0	0.4	0.3	13.1	12.3

<sup>a</sup> standard errors are available upon request from the authors of the study