

ASHP National Survey of Health-System Specialty Pharmacy Practice – 2020



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Purpose. Results of the first ASHP National Survey of Health-System Specialty Pharmacy Practice are presented.

Methods. A sample of 230 leaders in health-system specialty pharmacies were contacted by email and invited to participate in a survey hosted using an online survey application. The survey sample was compiled from ASHP member lists, through review of data from other ASHP surveys indicating the presence of specialty pharmacies, and by outreach to ASHP member organizational leaders.

Results. The response rate was 53.0%. Most health-system specialty pharmacies dispense 30,000 or fewer specialty prescriptions per year, have an annual revenue of \$100 million or less, are part of an entity eligible to participate in the 340B Drug Pricing Program, operate 1 specialty pharmacy location, have at least 1 specialty pharmacy accreditation, dispense nonspecialty medications in addition to specialty medications, and employ an average of 13 pharmacists and 15 technicians. More than two-thirds of health-system specialty pharmacies (68.8%) dispense no more than half of the prescriptions written by their providers due to payer network restrictions or limited distribution drugs. The health-system specialty pharmacy practice model includes access to the electronic health record (100% of respondents), pharmacists and technicians dedicated to specific clinics (64.9% and 57.7%, respectively), specialty pharmacist involvement in treatment decisions and drug therapy selection prior to the prescription being written (64.9%), and documenting recommendations and progress notes in patients' electronic health record (93.4%). Most health-system specialty pharmacies (83.3%) offer experiential or formal education in specialty pharmacy. Top challenges that survey respondents expected to face in the next year included restricted access to payer networks and limited distribution drugs, 340B Drug Pricing Program changes, and shrinking reimbursement from payers.

Conclusion. The health-system specialty pharmacy represents an integrated advanced practice model that incorporates specialty medication-use management across the continuum of care.

Keywords: electronic health record, pharmacy practice model, pharmacy services, specialty medication, specialty pharmacy, survey

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The ASHP National Survey of Health-System Specialty Pharmacy Practice was created to capture insights into the current state of specialty pharmacy practice within hospitals and health systems. Hospitals and health systems are well suited to manage and facilitate care across the continuum of a patient's journey and

serve as the epicenter of care for the specialty patient. Investigational drug studies for new specialty medications are performed in health systems. Most prescriptions for specialty medications originate from health system-based specialists. Patients utilize the health system for specialty clinic visits, infusions, inpatient and emergent care,

medical and surgical procedures, and other support services. The health-system specialty pharmacy is an integral component of the services offered to its specialty patients.

Since 1998, the ASHP National Survey of Pharmacy Practice in Hospital Settings has investigated practices in medication-use management and the role pharmacists play in improving it.¹ Over the years, the annual surveys have demonstrated the increasingly influential role pharmacists play in the entire medication-use process. The 2019 survey highlighted the growth of specialty pharmacy operations within health systems; 26.4% of health systems had specialty pharmacies in 2019, up from 7.8% in 2015.² Following the prominent portfolio of ASHP national surveys of pharmacy practice, ASHP launched its first National Survey of Health-System Specialty Pharmacy Practice in 2020. In alignment with ASHP's strategic plan, the creation of this survey encompassed ASHP's ongoing efforts to provide national benchmarks and resources for the pharmacy workforce practicing in rapidly evolving healthcare settings.

Specialty drugs are defined as those used to treat specific rare and/or complex chronic diseases and that meet 4 or more of the following criteria: (1) initiated and maintained by a specialist; (2) generally injectable and/or not self-administered; (3) need for additional level of care in the chain of custody; (4) annual cost of therapy of \$6,000 or more; (5) unique distribution; (6) need for extensive or in-depth monitoring and/or patient counseling; and (7) require reimbursement assistance.³ In 2020, the United States spent \$265.3 billion on specialty medications, representing 49.6% of total pharmaceutical expenditures.⁴ Specialty drug expenditures increased 8.4% in 2020 compared to 2019, faster than the overall pharmaceutical market growth rate of 4.9%. Clinics, including physician offices and outpatient clinics, accounted for 30.1% of specialty drug spending, which was largely made up of infused drugs and biosimilars. Mail-order pharmacies had

KEY POINTS

- The health-system specialty pharmacy represents an integrated advanced practice model that incorporates specialty medication-use management across the continuum of care.
- Health-system specialty pharmacies serve the patients and employees of the health systems to which they belong and are local or regional in their reach, with most dispensing 30,000 or fewer specialty prescriptions per year and having an annual gross revenue of \$100 million or less.
- Health-system specialty pharmacies report practices exceeding the industry standard, such as integration with specialty clinics and providers and access to the electronic health record; however, the top challenge is restricted access to payer networks, which limits the health system's ability to deliver an exceptional level of service and coordinated care to all of its patients.

a 44% share of specialty drug spending, followed by retail pharmacies (14.6%).

The 2020 National Survey of Health-System Specialty Pharmacy Practice sought to define and outline the characteristics of the growing health-system specialty pharmacy practice model. The survey focused on 8 domains: (1) health-system and specialty pharmacy demographics; (2) workforce staffing levels, training, and credentials; (3) operations; (4) payer access, business relationships, and financial management; (5) patient care services, clinical care, and documentation; (6) quality, outcomes, and value; (7) staff activities and functions; and (8) the future of specialty pharmacy.

Methods

Questionnaire development.

The 2020 questionnaire was developed using procedures suggested by Dillman.⁵ An expert advisory panel ([appendix](#)) was convened in August 2019 to develop the survey framework and provide practice insights and recommendations used to draft survey questions. The panel and subgroups met 4 times. The authors reviewed and refined survey questions in spring 2020. Pilot testing with the expert panel, ASHP Section of Specialty Pharmacy Practitioners (SSPP) Executive Committee, and section advisory group (SAG) chairs occurred in June 2020. The questionnaire consisted of 99 questions.

Survey sample. A convenience sample was constructed through outreach to chief pharmacy officers and directors of pharmacy listed in the ASHP member database requesting contact information for the specialty pharmacy leader at their organization, to the SSPP membership, to SSPP SAG members, and to ASHP National Survey of Pharmacy Practice in Hospital Settings respondents indicating they had a specialty pharmacy. This outreach yielded 230 unique contacts with email addresses.

Data collection. All contacts were by email. Survey completion was done online using Qualtrics (Qualtrics, Provo, UT). Health-system specialty pharmacy leaders were contacted a maximum of 6 times during the survey period to request survey completion and for deadline reminders. The first contact was on September 15, 2020, and the last contact was on October 14, 2020. In addition, the following information pushes were conducted: an ASHP all-member announcement and news release (September 16); an invitation message to leaders at large specialty pharmacy vendors, collaborative networks, and group purchasing organizations requesting they share the survey link with specialty pharmacy director contacts (September 16); an SSPP Connect Community Post communicating that the survey was open

(September 17 and 28); invitation emails to hospital pharmacy directors thought to have a specialty pharmacy operation (September 22) and to SSPP SAG members (September 19); and direct emails from authors throughout the open survey period. Data collection was closed on October 16, 2020.

Data analysis. Each health-system specialty pharmacy in the sample was assigned a unique identification number. This number allowed the survey response to be matched with a specialty pharmacy and to eliminate duplicate responses.

Data are presented by categories of number of specialty pharmacy prescriptions dispensed annually. We selected this prescription volume measure as a differentiator to describe likely differences in operations due to scale.

Data were output from Qualtrics into an SPSS-readable file. All analyses were conducted using SPSS Version 27 (IBM Corporation, Armonk, NY).

Descriptive statistics were used extensively. Chi-square analysis and analysis of variance or regression were used to examine how responses differed as a function of health-system specialty pharmacy characteristics. The a priori level of significance was set at 0.05.

Results

A total of 122 health-system specialty pharmacies submitted usable data for analysis. The overall response rate was 53.0%.

Specialty pharmacy characteristics. Table 1 shows respondent demographics. Pharmacy operations were split between those provided in a location separate from retail pharmacy operations (47.5%) and those provided within an existing health-system retail pharmacy operation (52.5%). The survey response distribution by number of years respondents had offered specialty pharmacy services was as follows: less than 1 year, 4.9%; between 1 to 3 years, 23.0%; between 4 to 6 years, 45.9%; and 7 or more years, 26.2%.

Table 1. Health-System Specialty Pharmacy Survey Respondent Demographics

Characteristic	%
Location separate from retail pharmacy operations (<i>n</i> = 122)	47.5
No. years health system has offered specialty pharmacy services (<i>n</i> = 122)	
Less than 1	4.9
1–3	23.0
4–6	45.9
7 or more	26.2
Contract with an external pharmacy business partner to help provide specialty pharmacy services or medications (<i>n</i> = 121)	24.0
Part of multihospital system (<i>n</i> = 121)	74.8
Academic medical center (<i>n</i> = 121)	62.0
No. outpatient clinics (<i>n</i> = 111)	
0–50	29.7
51–100	29.7
101–150	8.1
>150	32.4
Hospital (or health-system hospital) is 340B covered entity (<i>n</i> = 116)	94.8
Hospital (or health-system hospital) contracts with external specialty pharmacy to provide specialty medications to health-system patients (<i>n</i> = 110)	60.9
Specialty pharmacy is 340B contract pharmacy to one or more covered entities (<i>n</i> = 116)	59.5
Dispenses nonspecialty medication (<i>n</i> = 114)	86.8
No. specialty pharmacy prescriptions dispensed per year (<i>n</i> = 111)	
<15,000	53.2
15,001–30,000	18.9
30,001–45,000	8.1
45,001–60,000	5.4
60,001–75,000	5.4
>75,000	9.0
Gross revenue (<i>n</i> = 111)	
<\$50M	55.0
\$50M–\$100M	20.7
\$101M–\$200M	13.5
\$201M–\$400M	8.1
>\$400M	2.7
Specialty pharmacy has own NPI number (<i>n</i> = 114)	71.1

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Table 1. Health-System Specialty Pharmacy Survey Respondent Demographics

Characteristic	%
Taxpayer Identification Number separate from health system's (n = 113)	26.5
Structured as limited liability corporation (n = 112)	20.5
No. specialty pharmacies within health-system (n = 114)	
1	76.3
2 or 3	20.2
4 or more	3.5
No. accredited specialty pharmacies in health system (n = 114)	
None	17.5
1	66.7
2 or 3	12.3
4 or more	3.5

Abbreviation: NPI, National Provider Identifier.

Overall, 24.0% of health-system specialty pharmacies contract with an external pharmacy business partner to help provide specialty pharmacy services or medications. Nearly 75% are part of a multihospital system, and 62% include an academic medical center. Respondents reported a wide range of outpatient clinics in their organization, with 29.7% having up to 50 clinics, 29.7% having between 51 and 100 clinics, 8.1% having between 101 and 150 clinics, and 32.4% having more than 150 clinics.

About 95% of respondents reported the hospital or health-system hospital is a 340B covered entity (ie, a registered organization eligible to participate in the federal 340B Drug Pricing Program). Of the 340B respondents, 60.9% also contract with an external specialty pharmacy to provide specialty medications to health-system patients, and 59.5% report the specialty pharmacy serves as a 340B contract pharmacy to one or more other covered entities.

The number of specialty pharmacy prescriptions dispensed per year ranged from less than 15,000 (53.2%) to 15,001 to 30,000 (18.9%), 30,001 to 45,000 (8.1%), 45,001 to 60,000 (5.4%), 60,001

to 75,000 (5.4%), and greater than 75,000 (9.0%). Gross revenue closely matched the distribution by number of prescriptions. Additionally, 86.8% of health-system specialty pharmacies dispense nonspecialty medications.

About 71% of health-system specialty pharmacies have their own National Provider Identifier number, 26.5% have a Taxpayer Identification Number separate from the health system, and 20.5% are structured as a limited liability corporation.

Overall, 76.3% of respondents reported there was only 1 specialty pharmacy in the organization, whereas 20.2% reported there were 2 to 3, and 3.5% reported 4 or more specialty pharmacies in the organization.

Overall, 82.5% of respondents were accredited for specialty pharmacy, with only 17.5% having no accredited specialty pharmacies in their organization. Accreditations varied, with the most common types being URAC specialty pharmacy (71.9%), followed by Accreditation Commission for Health Care (ACHC) specialty pharmacy (41.2%), and Joint Commission specialty pharmacy (14.9%). Less common

accreditation types were URAC mail order (7.9%), ACHC distinction in oncology (3.5%), VIPPS (Verified Internet Pharmacy Practice Sites; National Association of Boards of Pharmacy, Mount Prospect, IL) (3.5%), Center for Pharmacy Practice Accreditation (1.8%), ACHC infusion pharmacy (1.8%), URAC rare disease pharmacy center for excellence designation (0.9%), and ACHC distinction in infectious disease specific to HIV (0.9%). No respondent reported accreditation by the URAC infusion program, ACHC distinction in rare disease and orphan drugs, or NCQA. The most common accreditations being pursued were ACHC specialty pharmacy (25.4%) and URAC specialty pharmacy (18.4%). All other pursued accreditations were each being pursued by less than 5% of respondents.

Workforce staffing, training, and credentials. Respondents were asked about the health-system specialty pharmacy reporting structure, practice model, patient care activities, roles of specialty pharmacists and technicians, advanced certification, training, credentials, and collaborative practice agreements (CPAs). Overall, 34.2% of health-system specialty pharmacy operations report to the system-level chief pharmacy officer, 33.3% report to ambulatory care pharmacy leadership, 11.7% report to a nonpharmacy hospital or health-system executive, 9.9% report to acute care pharmacy leadership, and 10.8% have some other reporting structure. A hybrid practice model with a mix of generalists and specialists was reported by 47.7% of health-system specialty pharmacies, 27.9% have a generalist model where all specialty pharmacists cover all disease states, and 24.3% have a specialist model where all specialty pharmacists are dedicated to specific disease states.

Health-system specialty pharmacies are integrated into their specialty clinics. Specialty pharmacists and pharmacy technicians are dedicated to specific clinics in 64.9% and 57.7% of health-system specialty pharmacies, respectively (Table 2). This differed by prescription volume, with pharmacies

Table 2. Workforce Staffing and Credentials^a

Characteristic	Annual Specialty Prescription Volume			All Respondents
	<15,000	15,000 to 45,000	>45,000	
	<i>n</i> = 59	<i>n</i> = 30	<i>n</i> = 22	<i>n</i> = 111
Specialty pharmacists dedicated to specific clinics	54.2 ^b	73.3 ^b	81.8 ^b	64.9
Specialty pharmacy technicians dedicated to specific clinics	45.8 ^c	66.7 ^c	77.3 ^c	57.7
Specialty pharmacists involved in treatment decisions and drug therapy selection prior to prescriptions being written	55.9	80.0	68.2	64.9
Advanced certifications/credentials held by specialty pharmacy staff				
Certified Specialty Pharmacist (CSP)	39.0 ^d	63.3 ^d	81.8 ^d	54.1
Board Certified Pharmacotherapy Specialist (BCPS)	33.9 ^e	66.7 ^e	68.2 ^e	49.5
Board Certified Oncology Pharmacist (BCOP)	20.3 ^g	63.3 ^g	54.5 ^g	38.7
Board Certified Ambulatory Care Pharmacist (BCACP)	23.7 ^f	53.3 ^f	45.5 ^f	36.0
American Academy of HIV Medicine (AAHIVP)	10.2 ^h	43.3 ^h	45.5 ^h	26.1
Board Certified Infectious Diseases Pharmacist (BCIDP)	5.1	16.7	18.2	10.8
Board Certified Pediatric Pharmacy Specialist (BCPPS)	8.5	6.7	13.6	9.0
Multiple Sclerosis Certified Specialist (MSCS)	1.7 ⁱ	10.0 ⁱ	18.2 ⁱ	7.2
Other	6.8	3.3	9.1	6.3
None	33.9 ^j	10.0 ^j	0.0 ^j	20.7
Percentage of specialty pharmacist FTEs who are residency trained	<i>n</i> = 57	<i>n</i> = 30	<i>n</i> = 22	<i>n</i> = 109
<30%	52.6	36.7	54.5	48.6
30%–60%	19.3	30.0	13.6	21.1
61%–90%	8.8	20.0	18.2	13.8
>90%	19.3	13.3	13.6	16.5
Patient care activities performed by specialty pharmacists	<i>n</i> = 55	<i>n</i> = 30	<i>n</i> = 21	<i>n</i> = 106
Document recommendations and progress notes in patients' permanent medical record (EHR or chart)	90.9	93.3	100.0	93.4
Monitor response to drug therapy	87.3	96.7	100.0	92.5
Pharmacist-initiated recommendations/interventions	94.5	90.0	90.5	92.5
Perform patient assessments	72.7 ^k	90.0 ^k	95.2 ^k	82.1
Refill authorization	25.5 ^l	66.7 ^l	71.4 ^l	46.2
Write orders per protocol: modify or initiate medication orders by policy or protocol	38.2	46.7	52.4	43.4
Order serum medication concentrations and other clinically important laboratory tests	38.2	36.7	57.1	41.5
Order/administer vaccines	34.5	40.0	52.4	39.6
Prescribe medications, including selection, initiation, monitoring, and adjustment of medication therapy pursuant to diagnosis of a medical disease or condition	29.1	26.7	42.9	31.1

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Table 2. Workforce Staffing and Credentials^a

	Annual Specialty Prescription Volume			All Respondents
	<15,000	15,000 to 45,000	>45,000	
Credentialing and privileging	n = 57	n = 29	n = 22	n = 108
Process extends beyond licensure	29.8 ^m	27.6 ^m	63.6 ^m	36.1

Abbreviations: EHR, electronic health record; FTE, full-time equivalent.

^aAll data are percentage of respondents.^b $\chi^2 = 6.642$, $df = 2$, $P = 0.036$.^c $\chi^2 = 7.884$, $df = 2$, $P = 0.019$.^d $\chi^2 = 13.264$, $df = 2$, $P = 0.001$.^e $\chi^2 = 12.353$, $df = 2$, $P = 0.002$.^f $\chi^2 = 8.618$, $df = 2$, $P = 0.013$.^g $\chi^2 = 18.380$, $df = 2$, $P < 0.001$.^h $\chi^2 = 16.644$, $df = 2$, $P < 0.001$.ⁱ $\chi^2 = 6.993$, $df = 2$, $P = 0.030$.^j $\chi^2 = 14.086$, $df = 2$, $P = 0.001$.^k $\chi^2 = 7.021$, $df = 2$, $P = 0.030$.^l $\chi^2 = 19.955$, $df = 2$, $P < 0.001$.^m $\chi^2 = 9.115$, $df = 2$, $P = 0.010$.

filling more prescriptions per year more likely to have specialty pharmacists and pharmacy technicians dedicated to specific clinics. Nearly two-thirds (64.9%) of respondents reported that specialty pharmacists are involved in treatment decisions and drug therapy selection prior to a prescription being written.

Health-system specialty pharmacists commonly hold advanced certifications and have postgraduate residency training. Advanced certifications include Certified Specialty Pharmacist (54.1% of respondents indicated this credential is held by specialty pharmacy staff), Board Certified Pharmacotherapy Specialist (49.5%), Board Certified Oncology Pharmacist (38.7%), Board Certified Ambulatory Care Pharmacist (36%), and American Academy of HIV Medicine (26.1%). This differed by prescription volume, with pharmacies filling more prescriptions per year more likely to report having pharmacists with advanced certifications. A smaller percentage of respondents reported specialty pharmacists have certifications in infectious diseases, pediatric pharmacy, or multiple sclerosis. The role of postgraduate pharmacy residencies among

health-system specialty pharmacists was explored. Almost half (48.6%) of respondents stated that less than 30% of specialty pharmacist full-time equivalents (FTEs) are residency trained; 21.1% reported that 30% to 60%, 13.8% reported that 61% to 90%, and 16.5% reported that more than 90% of pharmacist FTEs are residency trained.

Like specialty pharmacists, health-system specialty pharmacy technicians have achieved a high level of certification. Almost all respondents (81.1%) reported that greater than 90% of specialty pharmacy technician FTEs have the Certified Pharmacy Technician (CPhT) designation. The career ladder for health-system specialty pharmacy technicians is varied, with most hired from the community pharmacy (60.2%) setting, followed by inpatient hospital pharmacy (15%), specialty pharmacy (12%), and home infusion (1.2%) settings.

Health-system specialty pharmacists engaged in direct patient care provide a broad depth of patient care services. The most frequently reported service was documenting recommendations and progress notes in patients' permanent medical record, such as an electronic health record (EHR) or

chart (93.4% of respondents), followed by monitoring response to drug therapy (92.5%), pharmacist-initiated recommendations/interventions (92.5%), patient assessments (82.1%), refill authorization (46.2%), writing orders per protocol (43.4%), ordering serum medication concentrations (41.5%), ordering/administering vaccines (39.6%), and prescribing medications pursuant to diagnosis (31.1%).

Respondents were asked if their organizations had a credentialing and privileging process beyond licensure that defines and authorizes an individual pharmacist's scope of practice. The survey defined credentialing as the process used by healthcare organizations to obtain, verify, and assess an individual's qualifications to provide patient care services. Privileging was defined as the process by which a healthcare organization, having reviewed an individual healthcare provider's credentials and found them satisfactory, authorizes that person to perform a specific scope of patient care services within the organization. Just over a third (36.1%) of respondents reported their organizations have a credentialing and privileging process for pharmacists. This differed by

prescription volume, with pharmacies filling more prescriptions per year more likely to have a credentialing and privileging process for pharmacists.

Certain patient care activities were more likely to require credentialing and privileging (Table 3). Among respondents that have pharmacists prescribing medications, 51.6% stated credentialing and privileging are required, whereas 48.4% authorize pharmacists to prescribe medications as a condition of their employment. Other patient care activities commonly requiring credentialing and privileging are writing orders per protocol (43.2% of respondents), ordering serum medication concentrations (42.9%), refill authorization (31.3%), and ordering/administering vaccines (23.8%).

Another finding demonstrating health-system specialty pharmacy integration with specialty clinics is the use of CPAs. Nearly half (40.4%) of respondents stated their pharmacists operate under CPAs. The following patient care activities most frequently required a CPA: writing orders per protocol (reported by 80.5% of respondents whose pharmacists operate

under CPAs), ordering serum medication concentrations (78%), prescribing medications (73.2%), and refill authorization (56.1%). Less common activities performed under CPAs include pharmacists initiating drug therapy recommendations (29.3%), ordering and administering vaccines (29.3%), monitoring response to drug therapy (12.2%), and documenting recommendations in progress notes in the patient permanent medical record (12.2%).

Training of pharmacy students and residents is an important component of health-system specialty pharmacy, with 83.3% offering some form of experiential or formal education in specialty pharmacy (Table 4). Advanced pharmacy practice experience (APPE) rotations are offered to pharmacy students in 70.4% of health-system specialty pharmacies, while 55.6% offer elective specialty pharmacy rotations for the organization's postgraduate year 1 (PGY1) and/or postgraduate year 2 (PGY2) residency program, and 18.5% offer a PGY1 and/or PGY2 pharmacy residency program housed within the organization's specialty pharmacy.

These results differed by prescription volume, with pharmacies filling more prescriptions per year more likely to offer APPE rotations, elective specialty pharmacy rotations in a pharmacy residency program, or a designated PGY1 and/or PGY2 specialty pharmacy residency.

Operations. Respondents were asked about prescription fulfillment, call center activities, state licenses, case management systems, and real-time benefit check. Prescription fulfillment and call center functions are comingled in 61.1% of health-system specialty pharmacies, whereas 38.9% have fulfillment distinct from the call center (Table 5). This differed by prescription volume, with pharmacies filling more prescriptions per year more likely to have fulfillment distinct from the call center and pharmacies filling fewer prescriptions per year more likely to have fulfillment and call center functions that are comingled.

Just over a third (37%) of health-system specialty pharmacies have 1 state license, 38% have 2 to 5, 13.9% have 6 to 10, 8.3% have 11 to 25, and 2.8% have 26 to 50 state licenses. This

Table 3. Privileging Required to Perform Patient Care Activities^a

Activity	n	Authorized to perform as an employed pharmacist	Requires credentialing and privileging
		%	%
Prescribe medications including selection, initiation, monitoring, and adjustment of medication therapy pursuant to diagnosis of a medical disease or condition	31	48.4	51.6
Write orders per protocol: modify or initiate medication orders by policy or protocol	44	56.8	43.2
Order serum medication concentrations and other clinically important laboratory tests	42	57.1	42.9
Refill authorization	48	68.8	31.3
Order/administer vaccines	42	76.2	23.8
Pharmacist-initiated recommendations/interventions	95	91.6	8.4
Document recommendations and progress notes in patients' permanent medical record (EHR or chart)	100	93.0	7.0
Monitor response to drug therapy	97	94.8	5.2
Perform patient assessments	89	95.5	4.5

Abbreviation: EHR, electronic health record.

^aData are for specialty pharmacies that have pharmacist performing activity.

Table 4. Experiential and Residency Training

Type of Training	Annual Specialty Prescription Volume			All Respondents (n = 108)
	<15,000 (n = 57)	15,000 to 45,000 (n = 29)	>45,000 (n = 22)	
	%	%	%	
IPPE rotation	35.1	44.8	36.4	38.0
APPE rotation	63.2 ^a	65.5 ^a	95.5 ^a	70.4
Required specialty pharmacy rotation in health system's PGY1 and/or PGY2 residency program	24.6	37.9	31.8	29.6
Elective specialty pharmacy rotation in health system's PGY1 and/or PGY2 residency program	38.6 ^b	58.6 ^b	95.5 ^b	55.6
PGY1 and/or PGY2 pharmacy residency housed within specialty pharmacy	7.0 ^c	27.6 ^c	36.4 ^c	18.5
None of the above	21.1	20.7	0.0	16.7

Abbreviations: APPE, advanced pharmacy practice experience; IPPE, introductory pharmacy practice experience; PGY, postgraduate year.

^a $\chi^2 = 8.389$, $df = 2$, $P = 0.015$.

^b $\chi^2 = 20.934$, $df = 2$, $P < 0.001$.

^c $\chi^2 = 11.220$, $df = 2$, $P = 0.004$.

Table 5. Operations

	Annual Specialty Prescription Volume			All Respondents (n = 108)
	<15,000 (n = 57)	15,000 to 45,000 (n = 29)	>45,000 (n = 22)	
	%	%	%	
Operational organization				
Fulfillment operations are distinct from call center	21.1 ^a	55.2 ^a	63.6 ^a	38.9
Fulfillment and call center functions are comingled	78.9 ^a	44.8 ^a	36.4 ^a	61.1
No. of state licenses				
1	52.6 ^b	24.1 ^b	13.6 ^b	37.0
2–5	38.6 ^b	41.4 ^b	31.8 ^b	38.0
6–10	8.8 ^b	17.2 ^b	22.7 ^b	13.9
11–25	0.0 ^b	17.2 ^b	18.2 ^b	8.3
26–50	0.0 ^b	0.0 ^b	13.6 ^b	2.8

^a $\chi^2 = 16.535$, $df = 2$, $P < 0.001$.
^b $\chi^2 = 32.958$, $df = 8$, $P < 0.001$.

differed by prescription volume, with pharmacies filling more prescriptions per year more likely to have more state licenses. Almost half of respondents reported using a specialty pharmacy case management system supported by a commercial platform (44.4%), an internally developed platform (13.9%), or the organization's EHR (33.3%).

Only 8.3% of respondents stated they do not use a case management system but did not specify what they use. Just over two-thirds (64.8%) of respondents reported using real-time benefit check for specialty pharmacy medications, and 31.3% were planning to implement real-time benefit check within the next 12 months.

Payer access, business relationships, and financial management. Health-system specialty pharmacies serve patients and employees of the health system to which they belong. As healthcare providers, 76.9% of respondents serve all patients of the health system regardless of the specialty pharmacy network status of

Table 6. Payer Access, Business Relationships, and Financial Management

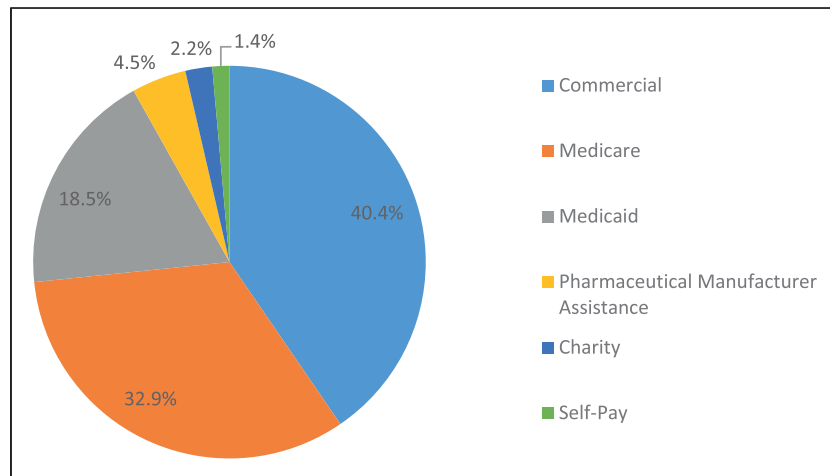
Characteristic	Annual Specialty Prescription Volume			All Respondents (n = 108)
	<15,000 (n = 57)	15,000 to 45,000 (n = 29)	>45,000 (n = 22)	
	%	%	%	%
Specialty pharmacy serves all patients of the health system regardless of network status	73.7	79.3	81.8	76.9
External payer's or health plan's specialty pharmacy is in network				
Other self-funded employer health plan(s)	38.6	27.6	40.9	36.1
Commercial health plan(s)	82.5	89.7	77.3	83.3
Medicaid	77.2 ^a	86.2 ^a	100.0 ^a	84.3
Medicare	77.2 ^b	89.7 ^b	100.0 ^b	85.2
AIDS drug assistance program	22.8	44.8	27.3	29.6
Not an in-network provider for external payers	5.3	3.4	0.0	3.7

^a $\chi^2 = 6.339$, $df = 2$, $P = 0.042$.^b $\chi^2 = 7.170$, $df = 2$, $P = 0.028$.

the patient (Table 6). 70.4% of respondents reported greater than 90% of all health-system specialty pharmacy referrals originate from providers within the health system, indicating specialty pharmacies primarily serve the health systems in which they reside.

Respondents reported 85.2% of health-system specialty pharmacies are in network with Medicare, Medicaid (84.3%), one or more commercial health plans (83.3%), other self-funded employer health plans (36.1%), and AIDS drug assistance programs (29.6%). Only 3.7% of specialty pharmacies are not in network for any external payers. The mean payer mix by percentage of total specialty pharmacy prescriptions dispensed is 40.4% commercial, 32.9% Medicare, 18.5% Medicaid, 4.5% pharmaceutical manufacturer assistance, 2.2% charity, and 1.4% self-pay (Figure 1).

Health-system specialty pharmacies commonly serve employees of the health system to which they belong. A large majority (87%) of organizations have their own self-funded health plan for employees, and 43.5% of respondents indicated that the health-system specialty pharmacy is the sole preferred

Figure 1. Payer mix by percentage of total specialty pharmacy prescriptions dispensed (n = 106).

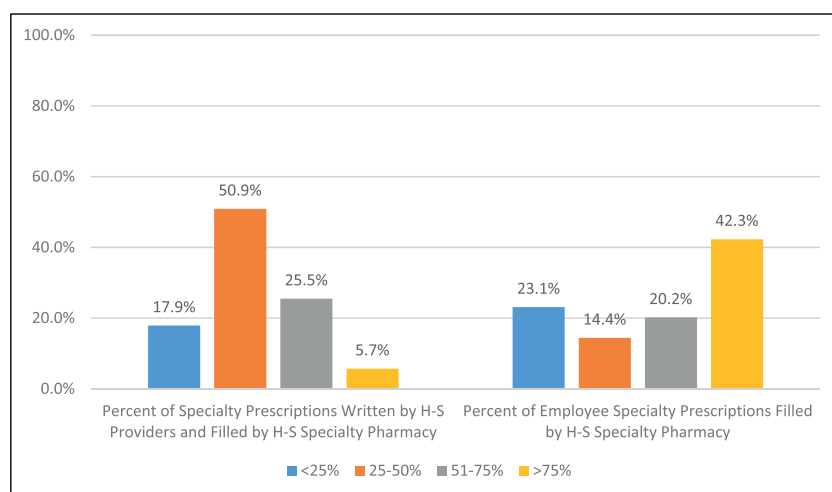
specialty pharmacy provider for health-system employees, one of the preferred providers (36.1%), or an in-network option but not exclusive or preferred (18.5%) (Table 7). This differed by prescription volume, with pharmacies filling more prescriptions per year more likely to be the sole preferred provider and smaller specialty pharmacies more likely to be an in-network option but not exclusive or preferred.

Respondents were asked to report the percentage of specialty prescriptions for patients or employees that their health-system specialty pharmacies fulfilled (Figure 2). Only 5.7% of health-system specialty pharmacies filled greater than 75% of all specialty pharmacy prescriptions originating from health-system providers for patients, and 25.5% filled 51% to 75% of those prescriptions. Another 50.9%

Table 7. Access To Health-System Specialty Pharmacy for Health-System Employees

Characteristic	Annual Specialty Prescription Volume			All Respondents (n = 108)
	<15,000 (n = 57)	15,000 to 45,000 (n = 29)	>45,000 (n = 22)	
	%	%	%	
Specialty pharmacy is sole preferred provider among in-network options	35.1 ^a	44.8 ^a	63.6 ^a	43.5 ^a
Specialty pharmacy is one of preferred providers among in-network options	35.1 ^a	41.4 ^a	31.8 ^a	36.1 ^a
Specialty pharmacy is in-network option (not exclusive or preferred)	28.1 ^a	13.8 ^a	0.0 ^a	18.5 ^a
Specialty pharmacy is out of network	1.8	0.0	4.5	1.9

^a $\chi^2 = 10.707$, $df = 4$, $P = 0.030$.

Figure 2. Prescription fulfillment (n = 106). H-S indicates health-system.

of specialty pharmacies filled 25% to 50% of specialty pharmacy prescriptions for patients, and 17.9% filled less than 25% of such prescriptions. For employee prescriptions, 42.3% of specialty pharmacies filled more than 75% of all health-system employee specialty prescriptions, 20.2% filled 51% to 75%, 14.4% filled 25% to 50%, and 23.1% filled less than 25% of such prescriptions. There were no significant differences by prescription volume, meaning larger specialty pharmacies were no more likely to fill specialty prescriptions originating from health-system providers or employee prescriptions than smaller pharmacies.

Over a third (37.7%) of respondents reported a 76% to 100% success rate in gaining access to limited distribution drugs for which the organization has identified a need (Table 8). Another 37.7% reported a 50% to 75% success rate, and 24.5% had a success rate of less than 50%. Success with access to limited distribution drugs differed by prescription volume, with pharmacies filling more prescriptions per year more likely to report a higher success rate. Barriers encountered when attempting to access limited distribution drugs included pharmaceutical manufacturer refusal to engage (82.1%), frozen out or blocked by payers (71.7%), and

not enough patients served (44.3%). Less frequently mentioned barriers were difficulty in establishing contacts (35.8%), meeting contracting requirements (29.2%), and meeting reporting requirements (29.2%); accreditation and licensing challenges (19.8%); and lack of capabilities within the specialty pharmacy (12.3%).

Respondents were asked about specialty pharmacy business relationships, and 71.8% reported engaging at least one business consultant in the last year. These consultants included accreditation consultants (47.2%), data validation consultants (41.5%), business management consultants (19.8%), billing/revenue consultants (11.3%), and marketing consultants (6.6%). Pharmacy services administration organizations were utilized by 68.6% of health-system specialty pharmacies, and 78.3% have a contract with a preferred delivery/courier service provider.

Most specialty pharmacies (74.7%) participate in data aggregation networks, including Acentrus Specialty (46.2% of respondents reported participation), Asembia (43.4%), Excelera (16%), and other data aggregation networks (1.9%). To collect and report data, respondents utilize their internal specialty pharmacy team (77.1%), the health-system business intelligence team (36.2%), a larger pharmacy department business intelligence team (32.4%), or a contracted vendor (21.9%).

Table 8. Access to Limited Distribution Drugs

Characteristic	Annual Specialty Prescription Volume			All Respondents (n = 106)
	<15,000 (n = 57)	15,000 to 45,000 (n = 28)	>45,000 (n = 21)	
	%	%	%	%
Success rate in gaining access to limited distribution drugs				
<50%	35.1 ^a	14.3 ^a	9.5 ^a	24.5
51%–75%	42.1 ^a	39.3 ^a	23.8 ^a	37.7
76%–100%	22.8 ^a	46.4 ^a	66.7 ^a	37.7
Barriers encountered in attempting to access limited distribution drugs				
Pharmaceutical manufacturer refusal to engage	82.5	78.6	85.7	82.1
Frozen out or blocked by payers	73.7	71.4	66.7	71.7
Not enough patients served	45.6	50.0	33.3	44.3
Establishing contacts	36.8	42.9	23.8	35.8
Meeting contracting requirements	31.6	21.4	33.3	29.2
Meeting reporting requirements	24.6	28.6	42.9	29.2
Accreditation and licensing challenges	28.1	10.7	9.5	19.8
Lack of capabilities within specialty pharmacy	14.0	7.1	14.3	12.3

^a $\chi^2 = 15.687$, $df = 4$, $P = 0.003$.

Almost all health-system specialty pharmacies process claims for self-administered medications under the pharmacy benefit (96.2% of respondents), clinic-administered medications under the pharmacy benefit (80.2%), self-administered medications under the medical benefit (31.1%), clinic-administered medications under the medical benefit (22.6%), and/or home infusion medications (8.5%) (Table 9). Nearly half (45.3%) of health-system specialty pharmacies bill for nondispensing services such as teaching/patient education (31.1%), prior authorization management (29.2%), medication therapy management (25.5%), telehealth services (14.2%), and other pharmacist services provided incident to providers (7.5%).

Health-system specialty pharmacies work to reduce the patient financial burden of specialty medications utilizing various resources. Less than a third (30.5%) of respondents procured financial assistance with a dollar value of \$1 million or less on

behalf of specialty patients in the last year, 39% procured between \$1 million and \$5 million, 13.3% procured between \$5 million and \$10 million, 11.4% procured between \$10 million and \$20 million, and 5.7% of respondents procured more than \$20 million (Table 10). These figures differed by prescription volume, with pharmacies filling more prescriptions per year more likely to procure on behalf of patients a higher dollar value of financial assistance. Health-system specialty pharmacies employed various ways to reduce patient financial burden, including patient assistance programs (98.1%), manufacturer copayment assistance cards (98.1%), foundation support (92.5%), manufacturer free drug programs (86.8%), patient charge accounts or payment programs (43.4%), discounted medications for eligible patients (38.7%), waiving or reduction of copays for eligible patients (34.9%), and distribution of product samples (14.2%). The utilization of patient charge accounts or payment

programs differed by prescription volume, with pharmacies filling more prescriptions per year more likely to offer patient charge accounts or payment programs.

Patient care services, clinical care, and documentation.

Therapeutic categories served by more than half of specialty pharmacies are inflammatory conditions (92.4%), hematology/oncology (92.4%), hepatology (85.7%), neurology (78.1%), infectious diseases (70.5%), cardiology (67.6%), endocrinology (65.7%), cystic fibrosis (53.3%), respiratory/pulmonary (52.4%), and solid organ transplant (51.4%) (Table 11). Pharmacies filling more prescriptions per year were more likely to serve all categories except hematology/oncology, immunology, respiratory/pulmonary, substance use disorder, and fertility, for which service rates did not differ significantly by prescription volume.

All health-system specialty pharmacies reported having access to the health-system EHR, either

Table 9. Billing Practices

Practice	Annual Specialty Prescription Volume			All Respondents (n = 106)
	<15,000 (n = 57)	15,000 to 45,000 (n = 28)	>45,000 (n = 21)	
	%	%	%	%
Claims submitted by health-system specialty pharmacy				
Self-administered medications under pharmacy benefit	94.7	96.4	100.0	96.2
Clinic-administered medications under pharmacy benefit	73.7 ^a	96.4 ^a	76.2 ^a	80.2
Self-administered medications under medical benefit	24.6	39.3	38.1	31.1
Clinic-administered medications under medical benefit	17.5	32.1	23.8	22.6
Home infusion medications	5.3	7.1	19.0	8.5
Nonmedication services/products under medical benefit	3.5	3.6	4.8	3.8
Nondispensing services billed				
Teaching/patient education	28.1	35.7	33.3	31.1
Prior authorization management	26.3	32.1	33.3	29.2
Medication therapy management	29.8	21.4	19.0	25.5
Telehealth services	8.8	17.9	23.8	14.2
Pharmacist billing incident to provider service(s)	7.0	7.1	9.5	7.5
Other	3.5	0.0	0.0	1.9
None of the above	54.4	57.1	52.4	54.7

^a $\chi^2 = 6.378$, $df = 2$, $P = 0.041$.

Table 10. Dollar Value of Financial Assistance Procured for Patients During Last Fiscal Year

Value	Annual Specialty Prescription Volume			All Respondents (n = 105)
	<15,000 (n = 57)	15,000 to 45,000 (n = 28)	>45,000 (n = 20)	
	%	%	%	%
<\$1M	40.4	25.0	10.0	30.5 ^a
>\$1M to \$5M	43.9	42.9	20.0	39.0 ^a
>\$5M to \$10M	8.8	21.4	15.0	13.3 ^a
>\$10M to \$20M	5.3	10.7	30.0	11.4 ^a
>\$20M	1.8	0.0	25.0	5.7 ^a

^a $\chi^2 = 33.585$, $df = 8$, $P < 0.001$.

read-and-document access (93.4% of respondents) or read-only access (6.6%) (Figure 3). Only 17% of respondents reported the health-system EHR notifies prescribers that a medication is a specialty medication at order entry.

For most patients, health-system specialty pharmacists provide patient

counseling prior to drug therapy initiation face-to-face (28.3% of respondents), via a telephone encounter (67.9% of respondents), or via another telehealth application such as video (3.8%). Respondents were asked if their specialty pharmacy offers telehealth services for patients (ie, a visit with a

pharmacist involving use of telecommunication systems), and if they bill for the services. Almost half (46.2%) of health-system specialty pharmacies offer telehealth services but do not bill for the services, and 6.6% offer telehealth services and bill for the services (Table 12). This differed by

Table 11. Therapeutic Categories Served by Health-System Specialty Pharmacy

Category	Annual Specialty Prescription Volume			All Respondents (n = 105)
	<15,000 (n = 56)	15,000 to 45,000 (n = 28)	>45,000 (n = 21)	
	%	%	%	%
Inflammatory conditions (including dermatology, gastroenterology, and rheumatology)	85.7 ^a	100.0 ^a	100.0 ^a	92.4
Hematology/oncology (including bone marrow transplants)	89.3	96.4	95.2	92.4
Hepatology (including hepatitis C)	76.8 ^b	96.4 ^b	95.2 ^b	85.7
Neurology (including multiple sclerosis)	67.9 ^c	85.7 ^c	95.2 ^c	78.1
Infectious diseases (including HIV infection)	58.9 ^d	78.6 ^d	90.5 ^d	70.5
Cardiology (including hypercholesterolemia)	57.1 ^e	75.0 ^e	85.7 ^e	67.6
Endocrinology (including growth hormone therapy)	58.9 ^f	60.7 ^f	90.5 ^f	65.7
Cystic fibrosis	35.7 ^g	67.9 ^g	81.0 ^g	53.3
Respiratory (including pulmonary arterial hypertension)	48.2	60.7	52.4	52.4
Solid organ transplant	37.5 ^h	53.6 ^h	85.7 ^h	51.4
Immunology	39.3	53.6	61.9	47.6
Nephrology	21.4 ⁱ	32.1 ⁱ	57.1 ⁱ	31.4
Fertility	25.0	32.1	42.9	30.5
Rare diseases (including “ultra-orphan” categories [eg, genetic disorders])	10.7 ^j	32.1 ^j	57.1 ^j	25.7
Substance use disorder	16.1	21.4	38.1	21.9
Psychiatry	12.5 ^k	21.4 ^k	42.9 ^k	21.0

^a $\chi^2 = 7.577$, $df = 2$, $P = 0.023$.^b $\chi^2 = 7.826$, $df = 2$, $P = 0.020$.^c $\chi^2 = 7.989$, $df = 2$, $P = 0.018$.^d $\chi^2 = 8.508$, $df = 2$, $P = 0.014$.^e $\chi^2 = 6.644$, $df = 2$, $P = 0.036$.^f $\chi^2 = 7.170$, $df = 2$, $P = 0.028$.^g $\chi^2 = 15.794$, $df = 2$, $P < 0.001$.^h $\chi^2 = 14.283$, $df = 2$, $P = 0.001$.ⁱ $\chi^2 = 9.048$, $df = 2$, $P = 0.011$.^j $\chi^2 = 18.061$, $df = 2$, $P < 0.001$.^k $\chi^2 = 8.503$, $df = 2$, $P = 0.014$.

prescription volume, with smaller specialty pharmacies less likely to offer telehealth services.

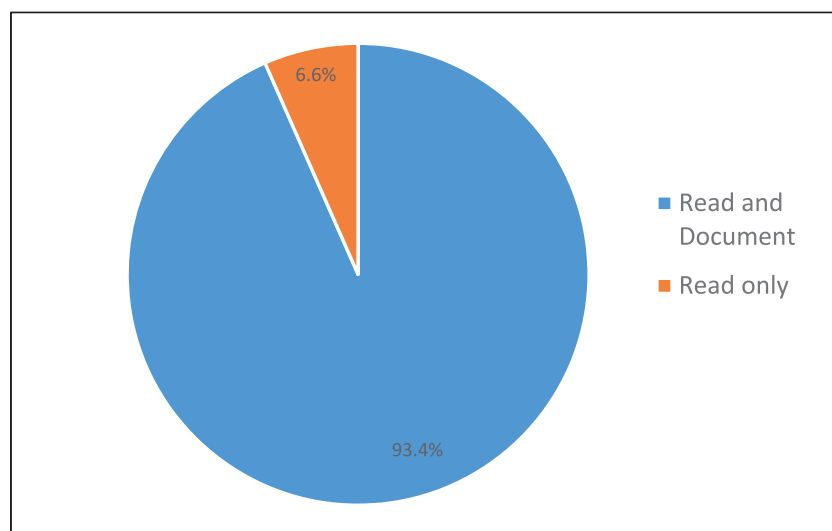
Health-system specialty pharmacies provide the following clinical services for the majority of patients served: prior authorization support (98.1% of respondents), adverse effect identification and management (97.1%), medication refill reminders (94.3%), copay assistance programs (94.3%), adherence support (91.4%), initial patient education (88.6%), patient access

programs (84.8%), coordination of care (70.5%), treatment recommendations (61%), dosage changes or titration (59%), and orders for nonmedication supplies (51.4%) (Table 12). Fewer than half of the health-system specialty pharmacies offer comprehensive medication management of nonspecialty medications (45.7%), provide patient care visits with clinic-embedded pharmacists (39%), order and/or administer vaccinations (26.7%), or order laboratory work (22.9%) for most patients

served. There were no significant differences by prescription volume in clinical services offered.

Respondents were asked about the allowable sources of injectable specialty medications that are administered to patients (Figure 4). The 3 sources cited by survey respondents were “brown bagging” (a patient-specific specialty pharmaceutical being delivered by an off-site non-affiliated specialty pharmacy directly to the patient, who then brings the drug into the

Figure 3. Specialty pharmacy access to health-system electronic health record ($n = 106$).



health system themselves as a “patient own medication” for administration), “white bagging” (a patient-specific specialty pharmaceutical being delivered by an off-site nonaffiliated specialty pharmacy directly to the health system where it will be administered), and “clear bagging” (a patient-specific specialty pharmaceutical being delivered by the health-system specialty pharmacy directly to the health-system site of service where it will be administered). Brown bagging is allowed by 17.1% of health-system specialty pharmacy respondents, white bagging is allowed by 57.1%, and clear bagging is allowed by 87.6%.

Quality, outcomes, and value.

Health-system specialty pharmacies use a comprehensive approach to ensuring medication safety, quality improvement, and monitoring of clinical, financial, and process metrics. These efforts support the demonstration of value. Almost all health-system specialty pharmacies demonstrate value through patient satisfaction (98.1% of respondents), revenue to the organization (97.1%), provider satisfaction (87.6%), improved clinical outcomes (81%), cost savings (74.3%), and medication safety (69.5%).

Overall, 85.7% of health-system specialty pharmacies have a committee to review specialty pharmacy quality

improvement data (Table 13). This committee is either internal to the specialty pharmacy service line (78.9%) or integrated with the hospital or health system's quality improvement program (21.1%). Almost two-thirds (65.7%) of respondents stated a quality improvement project that resulted in a change in practice was completed within the last year. There were differences by prescription volume, with pharmacies filling more prescriptions per year more likely to have a quality improvement committee internal to the specialty pharmacy service line and to have implemented within the last year a quality improvement project that resulted in a change in practice.

Among respondents that implemented a quality improvement project, the most frequently stated reason was that it was required by an accrediting organization (75.2%). Internal interest (51.4%) and negative trends in metrics (31.4%) were reasons more likely to be mentioned by pharmacies filling more prescriptions per year. Other stated reasons were patient and/or provider feedback (25.7%), medication safety issue (20%), incident reports (16.2%), required by payer (5.7%), or required by a manufacturer (1.9%).

The health-system specialty pharmacy medication safety program, if

provided, is integrated with the health system medication safety program (68.6% of respondents) or internal to the specialty pharmacy service line (24.8%). Only 6.7% of respondents did not report having a dedicated medication safety program.

Metrics. The survey identified a wide array of metrics tracked by health-system specialty pharmacies, such as process metrics, staffing metrics, financial metrics, quality metrics, clinical metrics, patient-reported outcomes, metrics for prior authorizations, metrics for FTEs, and average time spent on patient assessment and medication education (Table 14). Overall, process metrics and quality metrics were tracked by the highest percentages of specialty pharmacies. Most health-system specialty pharmacies tracked process metrics such as prescription volume (98.1% of respondents), dispensing accuracy (90.5%), phone abandonment rate (90.5%), customer service call response time (89.5%), time to initial dispense (83.8%), patient volume (83.8%), and prescription capture rate (81%).

For staffing metrics, 48.6% of health-system specialty pharmacies tracked number of prescriptions processed, 45.7% tracked number of patients managed, 42.9% tracked prior authorizations completed, and 39% tracked revenue/margin per FTE.

Financial metrics included patient financial assistance dollars (tracked by 87.6% of health-system specialty pharmacies), percentage of patients receiving financial assistance (55.2%), healthcare cost savings (28.6%), and funded research (8.6%). Pharmacies filling more prescriptions per year were more likely to track the percentage of patients receiving financial assistance dollars.

Quality metrics were widely tracked. These included medication errors (94.3% of respondents), patient satisfaction (91.4%), patient complaints (90.5%), and provider satisfaction (76.2%).

Clinical metrics tracked were proportion of days covered (68.6% of

Table 12. Clinical Services

Characteristic	Annual Specialty Prescription Volume			All Respondents
	<15,000	15,000 to 45,000	>45,000	
	%	%	%	%
Health-system specialty pharmacy offers telehealth services for patients	<i>n</i> = 57	<i>n</i> = 28	<i>n</i> = 21	<i>n</i> = 106
Offer telehealth but do not bill for the services	29.8 ^a	71.4 ^a	57.1 ^a	46.2
Offer telehealth services and currently bill for the services	3.5 ^a	10.7 ^a	9.5 ^a	6.6
Do not offer telehealth services	66.7 ^a	17.9 ^a	33.3 ^a	47.2
Clinical services provided for majority of patients served	<i>n</i> = 56	<i>n</i> = 28	<i>n</i> = 21	<i>n</i> = 105
Prior authorization support	96.4	100.0	100.0	98.1
Side effect identification and management	94.6	100.0	100.0	97.1
Medication refill reminders	92.9	100.0	90.5	94.3
Copay assistance programs	91.1	100.0	95.2	94.3
Adherence support	85.7	96.4	100.0	91.4
Initial patient education including self-injection training	82.1	92.9	100.0	88.6
Patient access programs	80.4	92.9	85.7	84.8
Coordination of care	64.3	82.1	71.4	70.5
Treatment recommendations	55.4	64.3	71.4	61.0
Dosage changes or titration	57.1	57.1	66.7	59.0
Orders for non-medication supplies (eg, spacers, needles, swabs)	41.1	60.7	66.7	51.4
Comprehensive medication management of nonspecialty medications	44.6	50.0	42.9	45.7
Patient care visits with clinic embedded pharmacists (eg, via collaborative practice agreements)	32.1	46.4	47.6	39.0
Order and/or administer vaccinations	26.8	28.6	23.8	26.7
Order laboratory work	21.4	25.0	23.8	22.9

^a $\chi^2 = 20.066$, *df* = 4, *P* < 0.001.

respondents), disease state-specific outcomes for selected therapeutic areas covered (59%), medication possession ratio (51.4%), therapy abandonment rate (29.5%), medication changes (21.9%), and disease state-specific clinical outcomes for all therapeutic areas covered (21%). Less frequently tracked were persistence (19.0%), primary medication nonadherence (19.0%), impact on hospital admission or readmission related to a targeted specialty disease (15.2%), and emergency

department visits related to a specialty disease (9.5%).

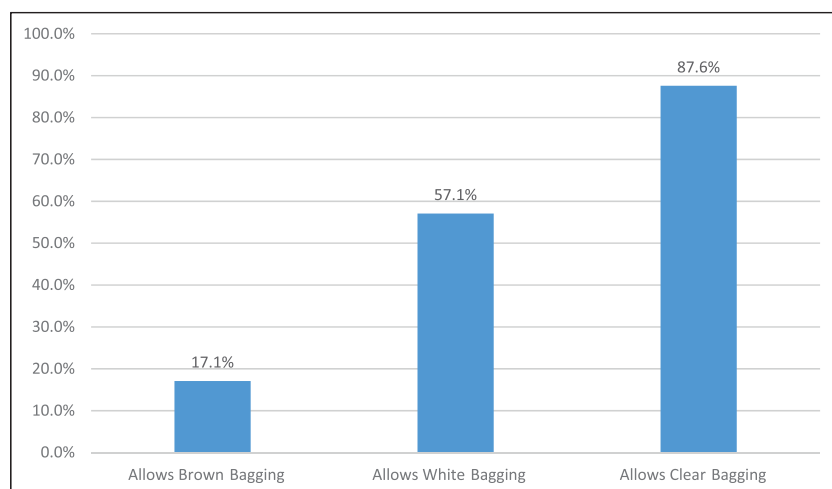
Patient-reported outcomes tracked were quality of life (66.7%), relapse rate (21%), and other disease-specific patient-reported outcomes (37.1%).

Respondents were asked if their staff manage prior authorizations for specialty medications and about their use of electronic prior authorization (ePA). Nearly all (97.2%) of health-system specialty pharmacy staff always or sometimes manage prior authorizations for

specialty medications. Most (77.9%) health-system specialty pharmacies utilize ePA for 50% or more of specialty prescriptions, while 15.4% use ePA for less than 50% of specialty prescriptions. Only 6.7% do not use ePA.

Among respondents that track the average prior authorization completion rate, the average rate was greater than 50 per week per FTE for 15.2% of respondents, 25 to 50 per week per FTE for 66.7% of respondents, and less than 25 per week per FTE for 18.2%

Figure 4. Health-system sources of injectable specialty medications administered to patients ($n = 105$). See text for definitions of brown, white, and clear bagging.



of respondents (Table 15). Among respondents that track the prior authorization approval rate, 10.2% reported an approval rate of greater than 90%, 40.7% reported an approval rate between 76% and 90%, 49.2% achieved an approval rate of 51% to 75%, and 10.2% reported a less than 50% approval rate for prior authorizations submitted by health-system specialty pharmacy staff.

Respondents who tracked the number of prescriptions processed per pharmacist or technician FTE reported their metrics (Table 16). Just over half (59.2%) of respondents reported less than 50 prescriptions processed per day per pharmacist FTE, 20.4% reported 51 to 100, 12.2% reported 101 to 150, and 8.2% reported more than 150

Table 13. Quality Improvement

Characteristic	Annual Specialty Prescription Volume			
	<15,000	15,000 to 45,000	>45,000	All Respondents
	%	%	%	%
	$n = 56$	$n = 28$	$n = 21$	$n = 105$
Committee reviews specialty pharmacy quality improvement data	75.0 ^a	96.4 ^a	100.0 ^a	85.7
Committee structure that reviews quality improvement data	$n = 42$	$n = 27$	$n = 21$	$n = 90$
Integrated with the hospital or health system quality improvement program	33.3 ^b	7.4 ^b	14.3 ^b	21.1
Internal to the specialty pharmacy service line	66.7 ^b	92.6 ^b	85.7 ^b	78.9
	$n = 56$	$n = 28$	$n = 21$	$n = 105$
Quality improvement project changed practice, in last year	50.0 ^c	75.0 ^c	95.2 ^c	65.7
Reason for completing quality improvement project	$n = 56$	$n = 28$	$n = 21$	$n = 105$
Required by an accrediting organization	69.6	82.1	81.0	75.2
Internal interest	41.1 ^d	57.1 ^d	71.4 ^d	51.4
Negative trends in metrics	19.6 ^e	39.3 ^e	52.4 ^e	31.4
Patient and/or provider feedback	19.6	32.1	33.3	25.7
Medication safety issue	21.4	25.0	9.5	20.0
Incident reports	10.7	21.4	23.8	16.2
Required by a payer	3.6	10.7	4.8	5.7
Required by a manufacturer	1.8	3.6	0.0	1.9
None of the above	14.3	7.1	0.0	9.5

^a $\chi^2 = 11.375$, $df = 2$, $P = 0.003$.

^b $\chi^2 = 7.399$, $df = 2$, $P = 0.025$.

^c $\chi^2 = 15.334$, $df = 2$, $P < 0.001$.

^d $\chi^2 = 6.134$, $df = 2$, $P = 0.047$.

^e $\chi^2 = 8.689$, $df = 2$, $P = 0.013$.

Table 14. Metrics Tracked by Health-System Specialty Pharmacies

Metric	Annual Specialty Prescription Volume			All Respondents (n = 105)
	<15,000 (n = 56)	15,000 to 45,000 (n = 28)	>45,000 (n = 21)	
	%	%	%	
Process metrics				
Prescription volume	96.4	100.0	100.0	98.1
Dispensing accuracy	85.7	92.9	100.0	90.5
Phone abandonment rate	82.1 ^a	100.0 ^a	100.0 ^a	90.5
Customer service call response time/speed to answer	82.1 ^b	96.4 ^b	100.0 ^b	89.5
Time to initial dispense from prescription receipt	75.0 ^c	89.3 ^c	100.0 ^c	83.8
Patient volume	78.6	92.9	85.7	83.8
Prescription capture rate (no. of prescriptions sent to specialty pharmacy and/or no. of specialty prescriptions written)	73.2	92.9	85.7	81.0
Delivery volume	58.9	82.1	76.2	68.6
Pharmacist clinical interventions	50.0 ^d	78.6 ^d	85.7 ^d	64.8
Prior authorization approval rate	55.4	64.3	47.6	56.2
On-time deliveries	33.9 ^e	71.4 ^e	57.1 ^e	48.6
Prior authorization completion rate per week per FTE	16.1 ^f	50.0 ^f	47.6 ^f	31.4
Inventory out-of-stock rate	19.6	42.9	19.0	25.7
Physician acceptance of interventions	12.5 ^g	42.9 ^g	23.8 ^g	22.9
Staffing metrics				
No. of prescriptions processed per staff member	41.1	60.7	52.4	48.6
No. of patients managed per staff member	35.7	60.7	52.4	45.7
Prior authorizations completed per relevant staff member	33.9	53.6	52.4	42.9
Revenue/margin per FTE	33.9	57.1	28.6	39.0
Financial metrics				
Financial assistance dollars	85.7	89.3	90.5	87.6
Percentage of patients receiving financial assistance	39.3 ^h	71.4 ^h	76.2 ^h	55.2
Healthcare cost savings	25.0	28.6	38.1	28.6
Funded research	3.6	14.3	14.3	8.6
Quality metrics				
Medication errors	91.1	96.4	100.0	94.3
Patient satisfaction	87.5	92.9	100.0	91.4
Patient complaints	87.5	92.9	95.2	90.5
Provider satisfaction	67.9	89.3	81.0	76.2
Clinical metrics				
Proportion of days covered	57.1 ⁱ	85.7 ⁱ	76.2 ⁱ	68.6
Disease state–specific outcomes for some therapeutic areas covered	50.0	71.4	66.7	59.0
Medication possession ratio	37.5 ^j	64.3 ^j	71.4 ^j	51.4
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Table 14. Metrics Tracked by Health-System Specialty Pharmacies

Metric	Annual Specialty Prescription Volume			All Respondents (n = 105)
	<15,000 (n = 56)	15,000 to 45,000 (n = 28)	>45,000 (n = 21)	
	%	%	%	%
Therapy abandonment rate	23.2	46.4	23.8	29.5
Medication changes	10.7 ^k	35.7 ^k	33.3 ^k	21.9
Disease state–specific clinical outcomes for all therapeutic areas covered	17.9	28.6	19.0	21.0
Persistence/nonpersistence	5.4 ^l	28.6 ^l	42.9 ^l	19.0
Primary medication nonadherence	10.7 ^m	39.3 ^m	14.3 ^m	19.0
Impact on hospital admission and/or readmission rates related to the specialty disease	14.3	14.3	19.0	15.2
Emergency department visits related to specialty disease	7.1	7.1	19.0	9.5
Patient-reported outcomes				
Quality of life	60.7	78.6	66.7	66.7
Relapse rate	16.1	25.0	28.6	21.0
Other disease-specific patient-reported outcomes	33.9	35.7	47.6	37.1

^a $\chi^2 = 9.671$, $df = 2$, $P = 0.008$ ^b $\chi^2 = 7.134$, $df = 2$, $P = 0.028$ ^c $\chi^2 = 7.879$, $df = 2$, $P = 0.019$ ^d $\chi^2 = 11.727$, $df = 2$, $P = 0.003$ ^e $\chi^2 = 11.281$, $df = 2$, $P = 0.004$ ^f $\chi^2 = 13.164$, $df = 2$, $P = 0.001$ ^g $\chi^2 = 9.769$, $df = 2$, $P = 0.008$ ^h $\chi^2 = 12.461$, $df = 2$, $P = 0.002$ ⁱ $\chi^2 = 7.778$, $df = 2$, $P = 0.020$ ^j $\chi^2 = 9.565$, $df = 2$, $P = 0.008$ ^k $\chi^2 = 8.824$, $df = 2$, $P = 0.012$ ^l $\chi^2 = 16.175$, $df = 2$, $p < 0.001$ ^m $\chi^2 = 10.268$, $df = 2$, $P = 0.006$

prescriptions processed per day per pharmacist FTE. For pharmacy technicians, 53.1% of respondents reported less than 50 prescriptions processed per day per technician FTE, 30.6% reported 51 to 100, 8.2% reported 101 to 150, and 8.2% reported more than 150 prescriptions processed per day per technician FTE. All metrics differed by prescription volume, with pharmacies filling more prescriptions per year more likely to report pharmacists and technicians processing more prescriptions per day per FTE and smaller pharmacies more likely to process fewer prescriptions per day per FTE.

Respondents who tracked the number of patients managed per

pharmacist or technician FTE reported their metrics. Most (83.3%) respondents stated FTE pharmacists tasked primarily with patient management manage less than 50 patients per day, while 6.3% reported between 51-100, 6.3% reported between 101-150, and 4.2% reported greater than 150 patients managed per pharmacist FTE. For pharmacy technicians, 70.8% of respondents stated FTE technicians manage less than 50 patients per day, while 16.7% reported 51 to 100, 8.3% reported 101 to 150, and 4.2% reported more than 150 patients managed per technician FTE. There were no significant differences by specialty pharmacy prescription volume.

Health-system specialty pharmacies reported metrics on average time spent by pharmacists on patient assessment and medication education for new-start and refill medications (Figure 5). Nearly half (40.8%) of respondents stated specialty pharmacists spend 31 to 60 minutes on patient assessment and medication education for new-start medications, and 35.9% reported that specialty pharmacists spend 16 to 30 minutes on that task. On average, pharmacists spend less time on that task for refill medications, with 64.1% of respondents stating pharmacists spend 6 to 15 minutes on patient assessment and medication education for refill medications and 19.4%

Table 15. Metrics for Prior Authorizations^a

Metric	Annual Specialty Prescription Volume			All Respondents (n = 33)
	<15,000 (n = 9)	15,000 to 45,000 (n = 14)	>45,000 (n = 10)	
	%	%	%	%
Mean no. prior authorizations completed per relevant staff FTE				
<25 per week	33.3	21.4	0.0	18.2
25–50 per week	55.6	64.3	80.0	66.7
>50 per week	11.1	14.3	20.0	15.2
Prior authorization approval rate				
<50%	6.5	16.7	10.0	10.2
51%–75%	51.6	38.9	60.0	49.2
76%–90%	41.9	44.4	30.0	40.7
>90%	6.5	16.7	10.0	10.2

Abbreviation: FTE, full-time equivalent.

^aData are for health-system specialty pharmacies that track metric.

reporting a time spend of 16 to 30 minutes.

Staff activities and functions.

Health-system specialty pharmacies reported metrics for budgeted FTE positions and time allocation for pharmacists and technicians (Table 17). On average, a health-system specialty pharmacy has 13 pharmacist FTEs, 15 technician FTEs, 2.9 nonclinical staff FTEs, and 0.6 nurse FTE. All metrics differed by prescription volume, with pharmacies filling more prescriptions per year more likely to report higher numbers of pharmacists, technicians, nonclinical staff, and nurses.

Clinical activities accounted for 30.3% of the time allocation by all health-system specialty pharmacists, followed by therapy review and authorization (22.5%), drug distribution (19.8%), patient engagement and nonclinical problem resolution (11.7%), administrative management (8.8%), and training and education (6.9%). There was one difference by prescription volume, with pharmacies filling more prescriptions per year more likely to report pharmacists spending more time on clinical activities.

Drug distribution accounted for 37.9% of the time allocation by all

health-system specialty pharmacy technicians, followed by therapy review and authorization (27.4%), patient engagement and nonclinical problem resolution (24.6%), administrative management (6.6%), and training and education (3.5%).

Future of specialty pharmacy.

Specialty pharmacies were asked a series of questions about the future of health-system specialty pharmacy, including challenges, opportunities for growth, points of pride, and strategic planning.

The top 3 challenges health-system specialty pharmacies expected to face in the next year were restricted access to payer networks (82.9% of respondents), 340B Drug Pricing Program changes (42.9%), and shrinking reimbursement from payers (40%) (Figure 6). Other challenges include restricted access to limited distribution drugs (34.3%), making improvements in physical facility (15.2%), ability to hire and retain qualified staff (14.3%), demonstrating the value of the health-system specialty pharmacy (14.3%), and managing growth (14.3%). There were differences by prescription volume, with specialty pharmacies filling more prescriptions per year more likely to rate health

system leadership engagement as a top challenge and smaller specialty pharmacies more likely to rate increased competition from external specialty pharmacies as a top challenge.

Respondents were asked to rate a list of opportunities for growth in the next 1 to 5 years on a scale from 1 (low opportunity) to 4 (high opportunity) (Figure 7). New populations to serve was the highest-rated opportunity (mean [SE] score, 3.08 [0.09]), followed by new therapeutic categories to serve (2.96 [0.09]), direct contracting with employers and manufacturers (2.80 [0.10]), patient engagement through telehealth technologies (2.71 [0.09]), expanded use of biosimilars (2.69 [0.10]), outcomes-based contracts (2.69 [0.10]), and “specialty lite” management (2.64 [0.09]). There was one difference by prescription volume, with pharmacies filling more prescriptions per year more likely to rate outcomes-based contracts as a high opportunity for growth.

Health-system specialty pharmacies indicated their top 3 points of pride as patient satisfaction and level of service (89.5% of respondents), medication access and affordability navigation (40%), and demonstrating

Table 16. Metrics per Full Time Equivalent^a

Metric	Annual Specialty Prescription Volume			All Respondents
	<15,000	15,000 to 45,000	>45,000	
	%	%	%	%
Prescriptions processed per pharmacist FTE ^c	<i>n</i> = 23	<i>n</i> = 17	<i>n</i> = 9	<i>n</i> = 49
<50 per day	87.0 ^b	41.2 ^b	22.2 ^b	59.2
51–100 per day	8.7 ^b	23.5 ^b	44.4 ^b	20.4
101–150 per day	4.3 ^b	23.5 ^b	11.1 ^b	12.2
>150 per day	0.0 ^b	11.8 ^b	22.2 ^b	8.2
Prescriptions processed per technician FTE ^c	<i>n</i> = 23	<i>n</i> = 17	<i>n</i> = 9	<i>n</i> = 49
<50 per day	78.3 ^c	35.3 ^c	22.2 ^c	53.1
51–100 per day	17.4 ^c	41.2 ^c	44.4 ^c	30.6
101–150 per day	4.3 ^c	11.8 ^c	11.1 ^c	8.2
>150 per day	0.0 ^c	11.8 ^c	22.2 ^c	8.2
Patients managed per pharmacist FTE for pharmacists tasked primarily with patient management ^c	<i>n</i> = 20	<i>n</i> = 17	<i>n</i> = 11	<i>n</i> = 48
<50 per day	85.0	88.2	72.7	83.3
51–100 per day	10.0	0.0	9.1	6.3
101–150 per day	5.0	5.9	9.1	6.3
>150 per day	0.0	5.9	9.1	4.2
Patients managed per technician FTE ^c	<i>n</i> = 20	<i>n</i> = 17	<i>n</i> = 11	<i>n</i> = 48
<50 per day	85.0	58.8	63.6	70.8
51–100 per day	5.0	29.4	18.2	16.7
101–150 per day	10.0	5.9	9.1	8.3
>150 per day	0.0	5.9	9.1	4.2

Abbreviation: FTE, full-time equivalent.

^aData are for health-system specialty pharmacies that track metric.^b $\chi^2 = 17.457$, *df* = 6, *P* = 0.008.^c $\chi^2 = 12.975$, *df* = 6, *P* = 0.043.

value of specialty pharmacy services (38.1%) (Figure 8). Other points of pride were pharmacists embedded in specialty clinics (27.6%), clinical outcomes (23.8%), gaining/maintaining accreditation (22.9%), workforce satisfaction and well-being (17.1%), and access to limited distribution drugs (15.2%).

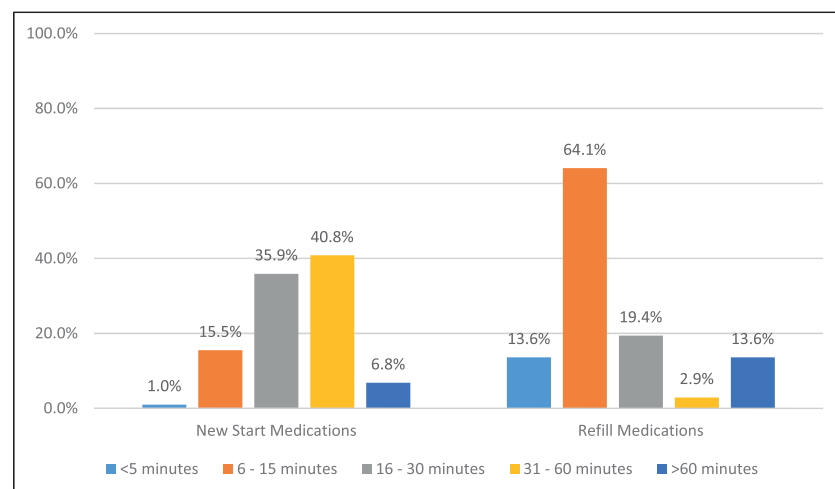
The top 3 strategic priorities for health-system specialty pharmacy improvement over the next year are payer contracting (60%), clinical outcomes (38.1%), and access to limited distribution drugs (34.3%) (Figure 9). Other strategic planning priorities were

improving reporting abilities (32.4%), gaining/maintaining accreditation (24.8%), demonstrating value of specialty pharmacy services (22.9%), and expanded or new physical facilities (22.9%). There were differences by prescription volume, with pharmacies filling more prescriptions per year more likely to indicate clinical outcomes as a top strategic priority and smaller specialty pharmacies more likely to indicate access to limited distribution drugs, gaining/maintaining accreditation, and patient satisfaction and level of service as top strategic priorities.

Discussion

The results of the survey informed the definition of the health-system specialty pharmacy as an integrated advanced practice model that incorporates specialty medication-use management across the continuum of care. The survey showed health-system specialty pharmacies serve the patients and employees of the health systems to which they belong and are mostly local or regional in their reach. Most are recently established (73.8% in operation 6 years or less). Because health-system specialty pharmacies are closely aligned with their health systems, they

Figure 5. Average time spent by pharmacists on patient assessment and medication education ($n = 103$).



are relatively small (typically 30,000 or fewer specialty prescriptions dispensed per year, annual gross revenue of \$100 million or less), have at least 1 specialty pharmacy accreditation, and maintain fewer than 5 state licenses. Most are part of a 340B covered entity, which helps to support the provision of medication access services such as prior authorization, free or discounted medications, and patient assistance programs.⁶ Health-system specialty pharmacies dispense nonspecialty medications in addition to specialty medications. They employ an average of 13 pharmacists and 15 technicians, with a nearly 1:1 ratio of pharmacists to technicians. Health-system specialty pharmacists are utilized for integrated clinical management, serving all specialty patients regardless of their specialty pharmacy network status, and their activities include coordination of care, documentation, research, teaching, and training, as evidenced by the survey results.

Rough et al⁷ described the health-system specialty pharmacy as an integral component of the high-value pharmacy enterprise (HVPE). They asserted that an HVPE specialty pharmacy should have certain characteristics consistent with the findings of this survey, including dual accreditation, pharmacists assigned to the

health system's specialty clinics, and advanced pharmacy technician roles. Those authors noted, and studies have demonstrated, that the integrated health-system specialty pharmacy model has the potential to decrease time to medication approval and facilitate access to financial assistance programs.⁷⁻¹¹

As reported in the survey, health-system specialty pharmacies offer value-added features that exceed the industry standard. Accrediting organizations such as URAC have standards that offer a baseline definition of specialty pharmacy practice in the areas of pharmacy operations, distribution, product handling and security, patient service and communication, patient management, and performance measurement.¹² Health-system specialty pharmacies report advanced practices, such as read-and-document access to the EHR, integration with specialty clinics and providers, comprehensive medication management, and an advanced practice model that includes training, education, certification, credentialing, and CPAs. These features contribute to the top 3 areas where health-system specialty pharmacies report success: patient satisfaction and level of service, medication access and affordability navigation, and

demonstrating value of specialty pharmacy services.

Integration with specialty clinics and providers is perhaps the most exceptional feature of the health-system specialty pharmacy practice model, and its value has been widely described in the literature.^{8-11,13-17} All health-system specialty pharmacies have access to the EHR. This access allows real-time, transparent sharing of information with the provider team, the ability to read and collect patient safety information and outcomes directly from the patient chart, and the opportunity for secure digital communication with patients through the EHR's patient portal. Specialty pharmacists are dedicated to specific clinics, and they are involved in treatment recommendations and decisions prior to the prescription being written. This upstream involvement in care of the specialty patient has been shown to improve adherence to specialty medication safety guidelines.¹⁸⁻¹⁹ Health-system specialty pharmacies provide prior authorization support, adverse effect identification and management, coordination of care, initial patient education, and dosage changes or titration. As health-system providers, specialty pharmacists are either authorized or can be credentialed to perform advanced services such as prescribing medications pursuant to a diagnosis, ordering serum medication concentrations, authorizing medication refills, and ordering/administering vaccines.

In addition to the robust practice model, the health-system specialty pharmacy has a well-trained workforce. Residency training among health-system specialty pharmacists is consistent with data from the ASHP National Survey of Pharmacy Practice in Hospital Settings indicating that 32.7% of pharmacists have completed a PGY1 residency.² Specialty pharmacists hold advanced certifications, residency training, credentials, or collaborative practice agreements to perform advanced patient care activities.

This well-trained workforce has assumed the role of training the next

Table 17. Specialty Pharmacy Staff FTEs and Time Allocation

Characteristic	Annual Specialty Prescription Volume			All Respondents
	<15,000	15,000 to 45,000	>45,000	
Budgeted FTE positions, mean (SE)	<i>n</i> = 55	<i>n</i> = 27	<i>n</i> = 19	<i>n</i> = 101
No. FTE pharmacist positions (management, staff, residents)	8.5 (3.6) ^a	13.8 (2.4) ^a	24.6 (5.3) ^a	13.0 (2.4)
No. FTE pharmacy technician and pharmacy student positions	9.2 (3.8) ^b	15.5 (2.2) ^b	30.9 (5.6) ^b	15.0 (2.5)
No. FTE non-clinical staff (eg, contract management, benefits management, nonclinical business leaders, information technology, and logistics staff)	1.5 (0.7) ⁱ	2.7 (0.7) ⁱ	7.1 (2.2) ⁱ	2.9 (0.6)
No. FTE nurse positions	0.2 (0.1) ^j	0.3 (0.2) ^j	1.9 (1.3) ^j	0.6 (0.3)
Pharmacist time allocation, %, mean (SE)	<i>n</i> = 55	<i>n</i> = 28	<i>n</i> = 19	<i>n</i> = 102
Therapy review and authorization ^a	24.8 (2.2)	22.7 (1.9)	15.6 (2.2)	22.5 (1.4)
Drug distribution ^b	20.9 (2.3)	18.6 (2.4)	18.4 (3.5)	19.8 (1.5)
Clinical ^c	27.4 (2.3) ^k	30.7 (2.8) ^k	38.4 (3.8) ^k	30.3 (1.7)
Patient engagement and non-clinical problem resolution ^d	11.7 (1.3)	11.3 (1.4)	12.2 (2.0)	11.7 (0.9)
Administrative management ^e	9.3 (1.0)	8.7 (1.5)	7.8 (1.5)	8.8 (0.7)
Training and education ^f	6.0 (0.8)	8.0 (0.8)	7.6 (1.2)	6.9 (0.5)
Pharmacy technician time allocation, %, mean (SE)				
Therapy review and authorization ^a	26.0 (3.2)	30.5 (2.8)	26.8 (4.8)	27.4 (2.1)
Drug distribution ^b	42.3 (3.6)	31.6 (3.2)	34.6 (4.6)	37.9 (2.3)
Patient engagement and non-clinical problem resolution ^d	23.4 (2.1)	23.6 (2.1)	29.6 (3.3)	24.6 (1.4)
Administrative management ^e	5.5 (1.1) ^l	10.2 (1.7) ^l	4.7 (1.3) ^l	6.6 (0.8)
Training and education ^f	2.9 (0.6)	4.1 (0.7)	4.3 (0.8)	3.5 (0.4)

Abbreviations: FTE, full-time equivalent; SE, standard error.

^aDefined as "medication and dose appropriateness, protocol compliance, benefits investigation, prior authorization, patient financial assistance."

^bDefined as "prescription fulfillment and processing, prescription checking, packaging, shipping."

^cDefined as "monitoring, patient education, interventions, documentation, adverse drug events, outcomes, quality."

^dDefined as "telephone or other outreach, insurance issues, delivery problems, etc."

^eDefined as "finance, contracting, billing, personnel supervision, accreditation, quality improvement, etc."

^fDefined as "educating staff, students, and residents."

^g $F(2, 98) = 3.412, P = 0.037$.

^h $F(2, 98) = 5.648, P = 0.005$.

ⁱ $F(2, 98) = 6.002, P = 0.003$.

^j $F(2, 98) = 3.227, P = 0.044$.

^k $F(2, 99) = 3.152, P = 0.047$.

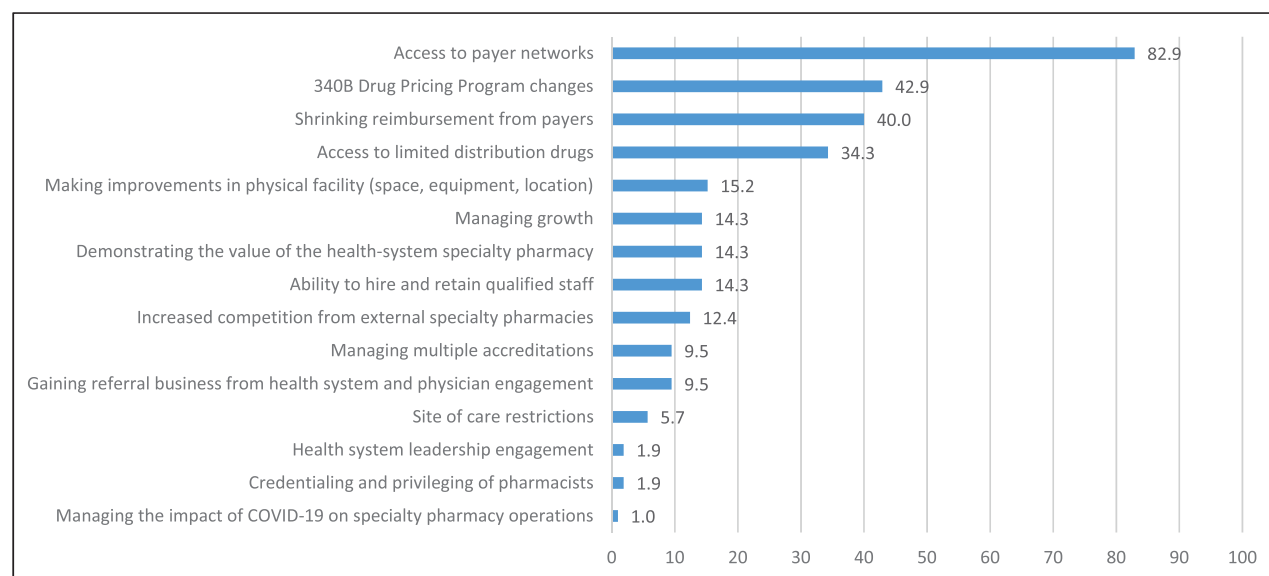
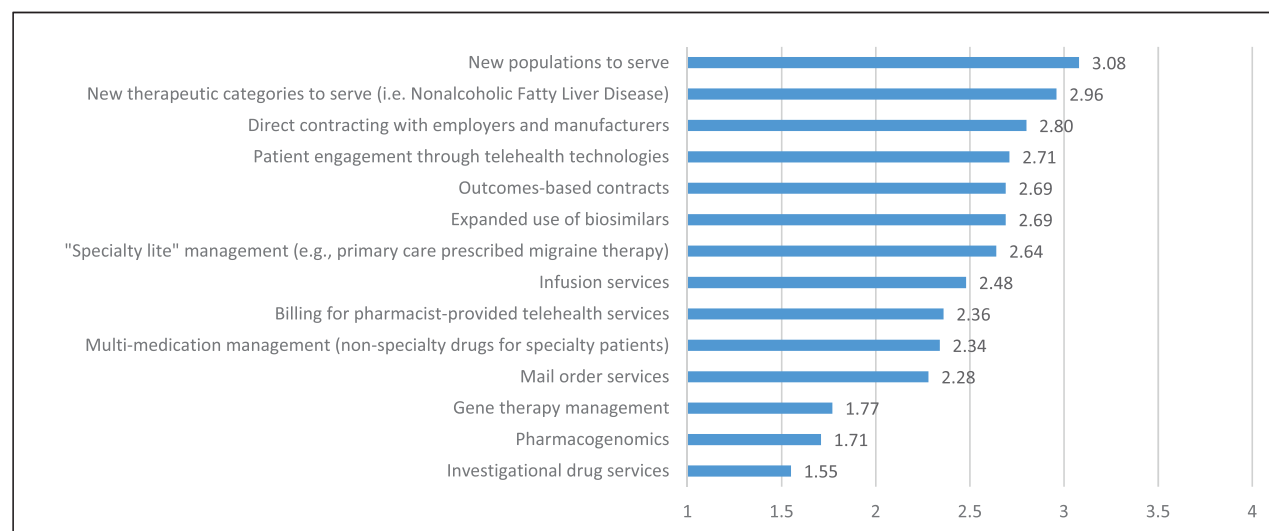
^l $F(2, 99) = 3.785, P = 0.026$.

generation of specialty pharmacists, as noted in this survey. Most health-system specialty pharmacies offer one or more training experiences for pharmacy students and/or residents, including student pharmacist APPEs and elective specialty pharmacy rotations for PGY1 and/or PGY2 residency programs. This training offers our future specialty pharmacists first-hand understanding of specialty pharmacy

and the health-system specialty pharmacy practice model.

The survey was the first to provide information on specialty pharmacy collection of 46 metrics related to specialty pharmacy comprehensive medication management and dispensing. The most frequently collected metrics were those required by accreditation organizations, such as prescription volume, dispensing accuracy, phone

abandonment rate, financial assistance dollars, medication errors, patient satisfaction, and patient complaints. Of note was the prior authorization approval rate of 76% to 90% reported by 40.7% of health-system specialty pharmacies that track this metric and the greater than 90% approval rate reported by another 10.2% of respondents. In addition to standard reporting metrics, health-system specialty pharmacies

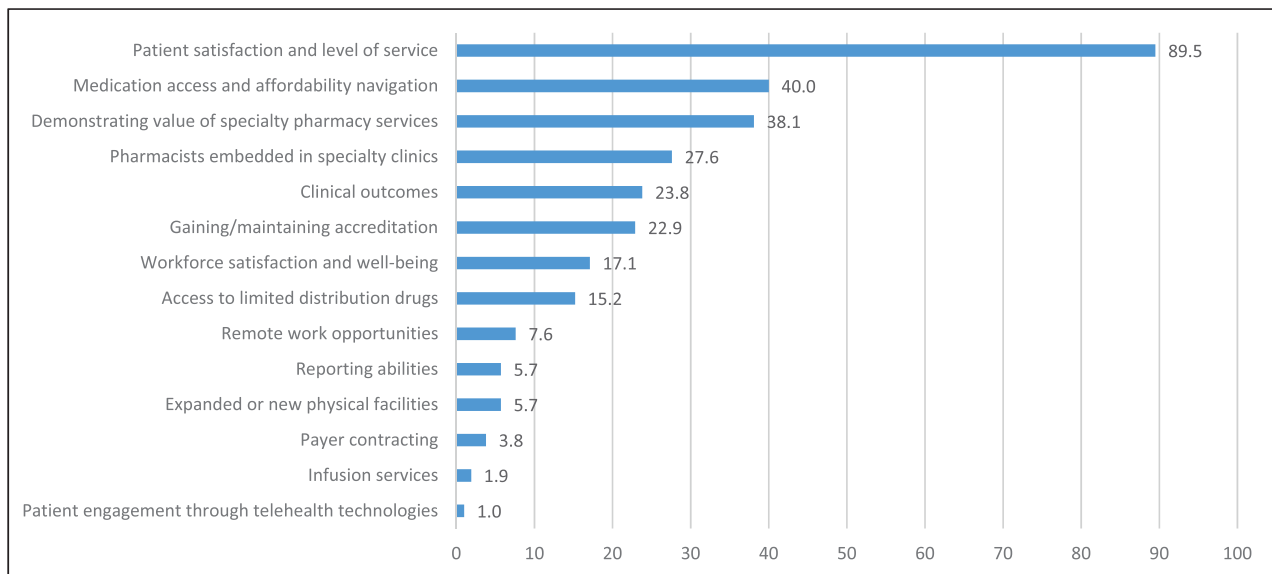
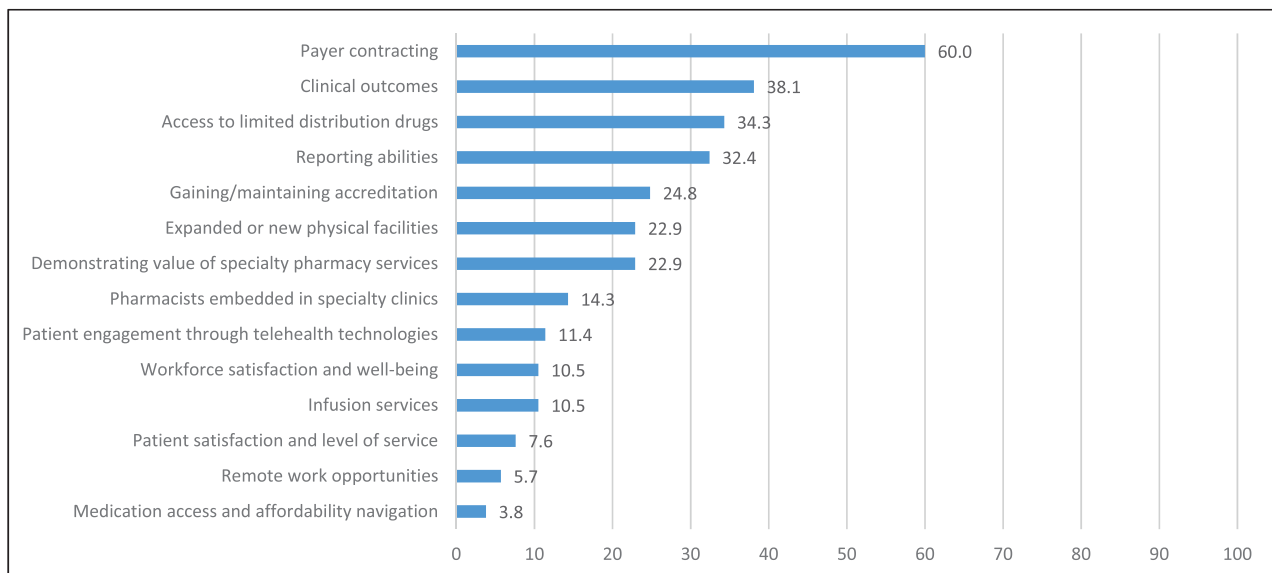
Figure 6. Top 3 challenges in the next year ($n = 105$).**Figure 7.** Opportunities for growth in next 1 to 5 years, as rated on a scale of 1 (low opportunity) to 4 (high opportunity) ($n = 104$).

collect metrics for quality improvement. Health-system specialty pharmacies have great flexibility in collecting metrics that drive quality improvement and patient care. This flexibility allows health systems to quickly respond to their findings, as demonstrated by the survey findings (65.7% of respondents had completed a quality improvement project within the last year that resulted in a change in practice). It also

provides the opportunity for real-time assessment of data leading to improvements in direct patient care, such as patient-tailored monitoring and safety interventions. The survey yielded some valuable benchmark data that provide insight as to how health-system specialty pharmacies deliver care.

Challenges and opportunities. The number one challenge facing health-system specialty pharmacies

in the next year is restricted access to payer networks, followed by 340B Drug Pricing Program changes, shrinking reimbursement from payers, and restricted access to limited distribution drugs. Most health-system specialty pharmacies fill no more than half of the specialty prescriptions written by their providers due to restricted payer networks or limited drug distribution, which can delay patient access to

Figure 8. Top 3 points of pride ($n = 105$).**Figure 9.** Areas prioritized in strategic plan. Survey respondents ($n = 105$) were asked to select 3 areas for focused improvement in next 12 months.

specialty medications.²⁰ Survey findings showed that larger health-system specialty pharmacies were significantly more successful in gaining access to limited distribution drugs, but not to restricted payer networks, indicating the widespread reach of restricted payer networks. Payer contracting was identified as the top strategic priority over the next 12 months by 60% of

respondents, and respondents identified direct contracting with employers and manufacturers as one of the top 3 areas for growth in the next 5 years.

Payer network restrictions vary widely, with some payers restricting their network to one specialty pharmacy and others having relatively open specialty networks. The Centers for Medicare and Medicaid Services

(CMS), one of the largest healthcare payers in the United States, prohibits network restrictions for specialty drugs in its Medicare Part D program, unless the drug is designated as a limited distribution drug by the manufacturer or there are extraordinary special handling, provider coordination, or patient education requirements that cannot be met by a network pharmacy.²¹

In other words, Part D plans cannot limit access simply because a drug is in a specialty or high-cost tier. Other payer networks have no such prohibitions and may restrict the specialty network to a select group of specialty pharmacies or a pharmacy owned by the pharmacy benefit manager or health plan. Restricted specialty networks challenge the health system's ability to deliver an exceptional level of service and coordinated care to all health-system patients, and they negate their top point of pride, which is patient satisfaction and level of service. In addition to patient satisfaction, health-system specialty pharmacies were found to have significantly higher provider satisfaction, as reported by Anguiano et al.²²

Another challenge is collecting outcomes metrics demonstrating the value of the health-system specialty pharmacy practice model. Respondents ranked clinical outcomes as one of the top 3 areas prioritized in their strategic plan. Demonstrating value will require an outcomes research program that performs studies on the economic, clinical, and humanistic value of specialty medications and health-system specialty pharmacy services and monitors clinical outcomes through a standardized process for documentation and data collection.²³⁻²⁴ Health systems can leverage their college of pharmacy affiliations to tap into expertise in health economics and outcomes research, database and funding sources, and other creative solutions. Studies demonstrating the impact and value of the unique features of the practice model would be of value to healthcare administrators, patients, providers, payers, and manufacturers.

Recommendations for improvement. The results of this survey helped to identify some gaps and areas for improvement that may be considered as health-system specialty pharmacies continue to grow and demonstrate their value:

1. Advocate for practices promoting patient choice and coordination of care for specialty patients. Combat payer

network restrictions, limited drug distribution, site-of-care programs, white bagging, and brown bagging.

2. Continue to advocate for the role of health-system specialty pharmacies in reducing the financial burden of specialty medications to patients and improving access to specialty medications.
3. Increase the number of specialty pharmacists who are residency trained. Support advanced clinical practice through credentialing, privileging, and collaborative practice agreements.
4. Every health-system specialty pharmacy should serve as a training site for pharmacy students and residents by offering introductory pharmacy practice experience and APPE rotations, residency rotations, and specialty pharmacy residencies.
5. Promote advanced training and a career ladder for health-system specialty pharmacy technicians. Since nearly all specialty technicians hold the CPhT credential, an advanced certification could help prepare them for the many roles in health-system specialty pharmacy. A career ladder to promote technicians from within the health system could help to recruit and retain qualified technicians.
6. Measure, report, and disseminate benchmark performance metrics. In the survey, metrics showing differences by size of the pharmacy offer an opportunity to compare your pharmacy with the benchmark for pharmacies of similar size. Any health-system specialty pharmacy should consider performing a self-assessment to compare its metrics with these benchmarks. With dedicated time and resources, health-system specialty pharmacies will be able to analyze metrics that demonstrate their role in comprehensive medication management and dispensing.
7. Demonstrate health-system specialty pharmacy outcomes and value. Studies should compare outcomes across various practice models to investigate any relationships between practice model and outcomes. Armed with data supporting their value, specialty pharmacists can engage in discussions

with stakeholders leading to payment for services, research collaborations, access to payer networks, access to limited distribution medications, and value-based contracting.

Limitations. The greatest challenge in conducting the survey was identification of the universe of health-system specialty pharmacies. No contact list of health-system specialty pharmacy leaders existed. Therefore, we leveraged relationships and used extensive outreach to leaders in health-system pharmacy to identify their specialty pharmacy leaders. Despite identifying 230 unique contacts, the survey might not have captured the entire universe of health-system specialty pharmacies.

The first survey of health-system specialty pharmacy practice was long. There were 99 questions, with subparts that yielded 391 data elements. Our response rate was 53%. This is astounding and speaks to the interest in these data among health-system specialty pharmacy leaders. Nevertheless, survey length may have affected response rate. Furthermore, it is possible the nonrespondents are different from respondents to the survey.

Even with these possible limitations, we believe that these results present a composite picture of the state of health-system specialty pharmacy practice in 2020.

Conclusion

The health-system specialty pharmacy represents an integrated advanced practice model that incorporates specialty medication-use management across the continuum of care. Health-system specialty pharmacies report practices exceeding the industry standard, such as integration with specialty clinics and providers and access to the EHR. The number one challenge facing health-system specialty pharmacies is restricted access to payer networks. The results of this survey helped to identify gaps and areas for improvement that may be considered as health-system specialty pharmacies continue to grow and demonstrate their value.

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Disclosures

The authors have declared no potential conflicts of interest.

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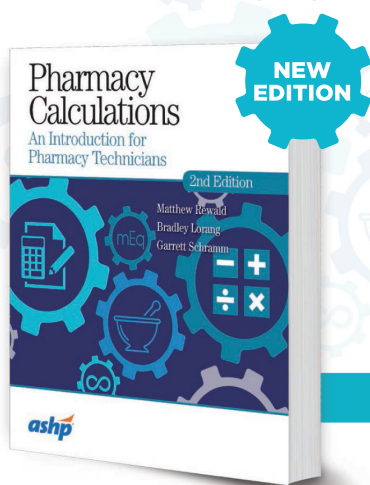
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^aAt the time of survey development, Dr. Hunerdosse was affiliated with Northwestern Medicine Specialty Pharmacy, Chicago, IL, and Dr. Jolly was affiliated with Vanderbilt Specialty Pharmacy, Nashville, TN.

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