INDEX

A

Academy of Student Pharmacists, 413
Accountable care organization (ACO), 1, 2, 12, 51
Accounting, 269, 276
Accreditation, 1, 12
   for pharmacy technicians, 423, 426
   laws, regulations about, 45-48
Accreditation Activity Guide for Healthcare Organizations, 48
Accreditation Council for Pharmacy Education, 93, 426
Accreditation of Rehabilitation Facilities, 73
Accreditation Standards for Acute Care Hospitals, 48
Accrediting body(ies), 43, 44, 73
Active pharmaceutical ingredient, 83, 311, 327
Acuity, 269, 276
Acute care pharmacy practice, 1-17
Administration, 328
   error, 107, 110, 111
Admixture programs, 311-334
Adult dosage ranges, 83
Advanced pharmacy practice experiences, 413
Adverse drug event, 107, 111
Adverse drug reaction
   medication monitoring and, 82
   medication safety and, 107, 111
   monitoring and reporting of, 119-121
Adverse effects/warnings, 76
Aesynt Insyte Medication Logistics, 244
Affiliative style, 370-371
Affordable Care Act, 50-51, 53, 196, 300
Agency for Healthcare Research and Quality, 122
AHA, 27
Alcohol, 21
Alerting orders, 119-120
Allergic drug reactions, 107, 111
Ambulatory care, 29-30, 291
   at clinics, 11
dispensing pharmacy for, 11
pharmacy practice/services for, 1-17, 291-310
Ambulatory roles, advanced, 428
American Academy of Pain Medicine, 161
American College of Clinical Pharmacy, 56, 91, 411
American College of Physicians, 47
American College of Surgeons, 23, 35, 47
American Dental Association, 47
American Hospital Association (AHA), 27, 47
   Committee on Pharmacy, 22
American Hospital Formulary Service Drug Information, 77
American Journal of Hospital Pharmacy, 32
American Medical Association, 47
American Osteopathic Association, 12, 43, 47-48, 73
American Pain Society, 345
American Pharmaceutical Association (APhA), 32
American Pharmacists Association, 56, 93
   Career Pathway Evaluation Program, 405, 408
American Recovery and Reinvestment Act, 171
American Society of Consultant Pharmacists, 56
Americans with Disabilities Act, 54-55
Ampicillin, 339
Ampul, 335, 340
Ante area/anteroom, 311, 319
Aseptic surgery, 21
Aseptic technique, 311, 323-325
ASHP
   Ambulatory Care Summit, 427-428
      automation and, 228-229
      careers and, 411
      clinical pharmacy and, 91-92, 93
      continuous infusions and, 344
   Guidelines on Handling Hazardous Drugs, 326
   Handbook on Injectable Drugs, 316
   Hilton Head conference, 19, 28-29, 91
history of pharmacy and, 23, 27, 29, 32-35
laws, regulations and, 48, 56-58
leadership competencies and, 374, 375
medication safety and, 122
Midyear Clinical Meeting and Exhibition, 405, 414
National Surveys of Pharmacy Practice, 315
pharmacy technicians and, 426
practice standards, 272-273
Section of Pharmacy Practice Managers, 375
smart pumps and, 345
student organizations and, 413
Technical Assistance Bulletin
Institutional Use of Controlled Substances, 257-258
Assets, 269, 276
Assuring Continuous Compliance with Joint Commission Standards, 48
Asynchronous CDS alerts, 183-184
Attitude theory, 359, 367-368
Audit of Pharmaceutical Services in Hospitals, 23
Authentication, 167, 184-185
Automated dispensing cabinets, 129, 135, 137-144
Automated dispensing devices, 218-219, 251
Automation, 213-237, 296
cost justification for, 230
inventory management and, 251
pharmacy manpower and, 230-231, 232
procurement systems for, 217
regulatory issues and, 227-228
safety issues and, 226-227, 228
selection of, 229-230, 232
storage, distribution devices and, 157-158
Behavioral theories, 359, 368
Bellevue Hospital (New York City), 21
Benchmarking, 284-285
Beyond-use date, 311, 316, 326
Big L leaders, 359, 362-363
Biological safety cabinet (BSC), 311, 317
Biometrics, 167, 185
Board certification, 89, 95
Board of Pharmaceutical Specialties, 89, 96
Budget, 269, 277
monitoring of, 282-283
negotiation, review, approval of, 282
process, 277
Buffer area/room, 311, 319
Bulk compounding, 24
Bulletin of the American Society of Hospital Pharmacists, 32
Bureau of Labor and Statistics, 424
Business case, 291, 294, 296, 299
variables, 302
Business model, 291, 293-294
sustainable, 294-295
Business plan, 291, 302-306
Bylaws, 59
Candidate information, 390
Cannula, 335, 338
Capital
budget, 269, 278-279
expense, 269, 274
Cardinal Glennon Memorial Hospital for Children (St. Louis), 25
Care transitions, 52
Career planning, 405-421
developing, 414-415
input from others and, 407
IPPEs, APPEs and, 412-413
options in, 407-409
personal reflection in, 406
procrastination and, 411-412
SWOT analysis, 407-408
Carousel dispensing technology, 213, 221
Case mix index, 269, 276
Case rate, 269, 275
Catholic hospitals, 20-21, 22
Center for Improvement in Healthcare Quality (CIHQ), 43, 46, 48
Accreditation Standards for Acute Care Hospitals, 48
Centers DC, Guidelines for the Prevention of Intravascular Cath-Related Infections, 341
Centers for Disease Control and Prevention (CDC), 50, 341
Guidelines for the Prevention of Intravascular Catheter-Related Infections, 341

Centers for Medicare & Medicaid Services (CMS), 12
data management and, 299-300
Hospital Inpatient Value-Based Purchasing Program, 293, 300-301
Hospital Readmissions Reduction Program, 300
laws, regulations and, 45-46, 47, 50-51
medication safety and, 122
Central nervous system routes, 337
Centralized dispensing, automation in, 219-220
Centralized pharmacy services, 138
Certificates, 418
Certification, 43, 45
for pharmacy technicians, 423, 424, 426
Certifying body, 43, 44
Chaffee, Bruce W., 167-194
Charge, 291
Charismatic power, 362
Chase, Kathy A., 67-87
Chemotherapy, 346
Chief executive officer, 269, 273
Chief financial officer, 269, 273
Children’s Health Insurance Program (CHIP), 45
Clarification, 121
Clean room, 311, 319-320
Cleaning, 319-320, 328
Clinical data repository, 167, 175, 195, 198
Clinical decision support alert, 167-168, 207
automation and, 214
data management and, 195, 196-197, 206
informatics and, 167, 182-184
rule, 168, 183
smart pumps and, 224-226
Clinical informatics pharmacist education, training of, 188
role, responsibilities of, 187
Clinical pharmacist, 89
competencies of, 94, 95
education, training, credentials for, 94
Clinical Pharmacist Recommendation Taxonomy, 93
Clinical Pharmacists Management of Drug-Related Problems, 93
Clinical pharmacy, 89, 95, 96-97
as practice, 8
controlled substance guidelines for, 160-161
informatics in, 180-181
value of, 89-105
Clinical studies, 76
Clinical-pharmacist-centered model, 5
Closed formulary, 67, 74
Closed-system drug transfer device, 311, 328
Coaching style, 372
Code carts, 137-138
Code of Federal Regulations (CFRs), 151, 153
Coercive power, 362
Coercive style, 369-370
Cold storage conditions, 311
Collaborative practice, 97
Community hospital, 3
Compensation, 291, 297, 298
Competence assessment, 59-60
Competence Assessment Tools for Health-System Pharmacies, 49
Compliance, 43
Components, 312, 316
Compounded pharmaceuticals/products, 259, 261
Compounded sterile preparation, 312, 316-317
Compounding, 328
accuracy, sterility verification for, 326
manufacturers for, 255
personnel in, 320-321
Compounding aseptic containment isolators (CACIs), 312, 317
Compounding aseptic isolator (CAI), 312, 317
Compounding Quality Act, 49, 255
Comprehensive Accreditation Manual for Hospitals, 48
Comprehensive model, 6
Computer-based documentation systems, 195, 199
Computerized prescriber order entry (CPOE) systems, 9-10, 195-212
automation and, 213, 214
clinical decision support and, 206-207
impact assessment of, 207-208
implementing, 204-206
informatics and, 168, 177
medication management, distribution and, 78, 134
Conditions of Participation, 46, 47, 48, 51
Confidentiality, 168, 184
Containment primary engineering control, 312, 327
Containment secondary engineering control, 327
Containment segregated compounding area, 312, 327
Continuous infusions, 341, 343, 344
Controlled Substance Act, 151, 153
Controlled substances administration of, 159
clinical practice guidelines for, 160-161
dispensing of, 158-159
dispensing, recordkeeping for, 222
disposal of, 158
expired, 261
inventory, storage of, 156-158
management of, 151-166
medication management and, 81
physical security and, 156
policies, procedures for, 161-162
procurement of, 155-156
purchasing, inventory control of, 257-259
risk assessment for, 155
selection of, 154-155
surveillance program for, 160

Controlled Substances Ordering System, 243

Cost, 291, 297
avoidance, 300
control, 269-290
information, 83
neutral, 292, 293-294
revenue analysis and, 284-285

COSTAR, 197

Crash carts, 137-138
Credentialing/credentials, 89, 95-96, 423
Critical care units, 10
Critical site, 312

Crossing the Quality Chasm, 109, 203, 240

Culture of safety, 114-119
Curriculum, 413-414
Curriculum vitae, 405, 415

Customer value proposition, 292, 294

D

Data, 168, 172
entry/input, 201-202
flows, electronic health record, 198
management of, 195-212
standardization of, 195, 203
Data warehouse, 168, 175
Deactivation, 328
Decentralized automated dispensing devices, 213, 218-221
Decentralized pharmacy services, 129, 138-139
Decontamination, 328
Deemed status, 43
De-identification, 168, 186
Delivery System Transformation, 51
Democratic style, 371
Department of Health and Human Services, 54
Department of Justice, 54
Department of Labor, 54
Department of Transportation, 54
Department standards, 59
Diagnosis-related DUE, 67, 80
Diagnosis-related group, 269, 275
Direct compounding area, 312, 317, 319
Direct expense, 269, 273
Direct purchasing, 255
Directions for Clinical Practice in Pharmacy conference, 28
Directive style, 369-370
Disinfecting, 319-320, 328
Dispensing, 4
error, 107, 110, 111
Dispensing pharmacists, 7
Dispensing systems, automation, 218
Distributor, 253-254
DNV LG Healthcare, 12, 44, 47-48, 73
Doctor of philosophy, 418
Domain, 43
Dosage form
cost and, 76
strength, stock size of, 83
Dosage range, 76
Double entry bookkeeping, 270, 276
Drug(s)
control of, 23-25
formulary for, 67, 69
interactions of, 76
misadventures with, 107
product acquisition, distribution, purchasing, 215-217
recall of, 252-254
shortage of, 254
Drug distribution services, 98-99
automation and, 218
informatics in, 179-180
Drug Enforcement Administration (DEA), 12
Automation and, 222
controlled substances management and, 151, 153
Form 106, 41, 156
Form 222, 155, 156, 243
Form 224, 155
laws, regulations and, 49
medication distribution and, 136, 141
Registrant’s Inventory of Drugs Surrendered Form 41, 261
Schedule, 83

Drug Facts and Comparisons, 77
Drug Supply Chain Security Act, 49, 217, 252
Drug therapy
guidelines, 67, 73
modification, discontinuance of, 5
Drug wholesaler purchasing, 256-257
Drug-distribution-centered model, 5
Drug-related problems, 107, 109, 111-112
morbidity and, 107, 111
resolution of, 98, 99
Drug-specific DUE, 67, 80
Drug-use evaluation (DUE), 67, 79-80
Dydek, George J., 151-166

E
Eckel, Fred M., 129-149
Eckel, Stephen F., 129-149
Economic order quantity, 239, 250-251
ECRI Institute, Alerts Tracker, 253
Education, 73, 97
Effects analysis, 155
Elastomeric chambers, 344-345
Electrolyte, 335
Electronic health record (EHR)
benefits of, 200-201
content, data issues with, 201
data management and, 195-200
informatics and, 168, 171
laws, regulations and, 43, 51
medication distribution and, 134-135
smart pumps and, 226
Electronic interfaces, 178-179
Electronic medical record (EMR), 171, 175-177
Electronic medication administration record (eMAR), 213, 223, 225
Electronic prescribing, 195, 203-204
of controlled substances, 159
Emergency medications, 137
Emotional intelligence, 359, 373-374
Employee engagement, 395-396
terminations, 398-399
Employment life cycle, 383, 384
Encryption, 168, 186
Environmental controls, 317
Environmental Protection Agency (EPA), 53-54, 247
Environmental testing, 320
Epidural, 335, 337
Equal Employment Opportunity Commission (EEOC), 54, 381, 382-383
Equity, 270, 276
Error of commission, 107, 112
Error of omission, 107, 112
Evaluating, compounding personnel, 321
Evidence-based, 90, 91, 93
ExCPT exam, 426
Executive summary, 303
Expense, 270, 273-274
budget, 279-281
Expert power, 362
Expired controlled substances, 261
Expired pharmaceuticals, 260-261
Extended Stability for Parenteral Drugs, 326
External benchmarking, 270, 284-285
Extravasation, 335, 338

F
Failure mode and effects analysis (FMEA), 151, 155
Failure modes, 155
FARM, 93
Federal Civil Rights Act of 1964, 381, 382
Federal Communications Commission, 54
Federal Information Security Management Act, 184
Fee-for-service, 292, 294
Fellowship, 90, 94, 417
Financial decisions, 273
Financial management, 269-290
Financial performance, 273
Financial plan, 304
Financial structure, 271
First air, 312, 317
First Data Bank, 206
Fixed expense, 270, 274, 281
Floor stock, 82, 141
FOCUS-PDSA, 67, 79
system, 129, 131, 132
Follower characteristics, 369
Follower-oriented leaders, 359, 368
Food and Drug Administration (FDA), 12
automation and, 229
compounding manufacturers and, 255
continuous infusions and, 344
controlled substances and, 154
hospital pharmacy history and, 44, 49
medication management and, 75
purchasing, inventory control and, 252
recalls and, 253-254
Safety and Innovation Act, 230
Food, Drug, and Cosmetic Act, 49
Formal power, 362
Formulary changes in, 78
controlled substances in, 154-155
maintenance of, 76
management of, 74-76, 81
management process for, 71
restrictions in, 68, 74-75
Formulary system hospital pharmacy history and, 19, 27
maintenance of, 72
medication management and, 68-70
purchasing, inventory control of, 240-241
Formulated preparations, compatibility, stability, 316
For-profit hospital, 3
Forrey, Ryan A., 311-334
Francke, Donald E., 31
Full-time equivalent (FTE), 19, 24
Functionality, 195, 197, 201

G
Garb, 312, 323
General care units, 10-11
General ledger, 270, 277
Generic name, 76
 of primary active ingredient, 83
Generic substitution, 82
Good Manufacturing Practice, 255
Government hospitals, 3
Graduate education, 415-417
Group purchasing organization, 239, 254-255
Guideline, 43, 44, 58

H
Handbook on Injectable Drugs, 326
Hazardous drugs, 247, 312, 317, 326-327
Health and Medicine Division of the National Academies, 55
Health Information Technology for Economic and Clinical Health Act, 171, 229-230
Health Insurance Portability and Accountability Act (HIPAA), 45, 54, 186, 196, 198
Health Level-7, 196, 203
Health Resources and Services Administration, 256
Healthcare delivery system, 12-13
Healthcare Facilities Accreditation Program (HFAP), 43, 46, 47
Healthcare quality measures, 117
Healthcare websites
 information on, 173-174
 quality criteria for, 175
 sources of, 175
Health-system board, 68, 70
Health-system pharmacist critical factors, 410-411
Health-system pharmacy practice, 1, 2
High alert medications, 153
High risk, 314
High-risk drugs, 120
Hiring, 383-385
Holdford, David A., 107-127, 291-310, 335-357, 359-379, 381-403, 405-421
Home health care, 11
Hospital Consumer Assessment of Healthcare Providers and Systems Survey, 53, 292
Hospital Outpatient Prospective Payment System, 298
Hospital pharmacy history of, 19-42
transformation of, 30-31
Hospital readmission, 44, 52-53
Hospital types, 2-3
Hospital-acquired condition (HAC), 43, 51-52
Hospital-Acquired Condition Reduction Program, 52
Human factors engineering, 213
Human resource expense, 279-280
Hyperalimentation, 336
Hypertonic saline, 346

I
Idiosyncratic reaction, 108, 111
Immunization Action Coalition, 341
Immunizations, 97
Impatient care, 10
Implantable pumps, 345
Implementation plan, 304
“Incident to” services, 292, 298-299
Income statement, 270, 276-277
Incompatibility, 335
Indications for use, 76
Indirect expense, 270, 274
Infiltration, 335, 338
Informatics, 167-194
 practice applications for, 179-182
Information, 168, 172-174
 access to, 176-177
 power and, 362
 retrieval of, 177
 security of, 168, 184-186
 systems and, 177
 technology, 296
 use of, 176-177
Infusion access, 342
Infusion pumps, 344
 medication-specific considerations for, 346
Inspirational leadership, 370
Institute for Healthcare Improvement, 122
Institute of Medicine
 data management and, 201, 203
 laws, regulations and, 57
 medication management and, 75
 medication safety and, 108-109, 112, 122
 purchasing, inventory control and, 240
Institute for Safe Medication Practices, 151, 153, 219
Joint Commission of Pharmacy Practitioners, 90, 91
Just-in-time inventory management, 239, 249-250, 251

K
Key performance indicators, 292, 304
Knowledge, 168, 172-174

L
Labeling, 325
Laboratory chemicals, 261
Laminar airflow workbench, 312, 317
Latent injury, 108, 111
Laws, 44, 48. See also specific laws
Leader(s), 364, 365
abilities of, 369
nature of, 366-367
Leader-follower relationship, 369
Leadership, 359-379
adaptability and, 372-373
ambulatory care pharmacy and, 294-295
barriers to, 374-375
centered on people, 361
common good and, 361
developing abilities of, 373
goals and, 361
intentional, 361
pharmacy technicians and, 429
power and, 361-362
process of, 361
styles of, 369-372
theories of, 365-366
Lean management processes, 117
Leapfrog Group, 122
Liabilities, 270, 276
Little L leaders, 359, 363
LOINC, 203
Look alike/sound alike products, 245-246
Low risk, 314
Ludwig, Brad, 213-237

M
Management, 359-379
Manager, 359, 364
Mann, Jami E., 129-149
Manufacturer, drug recalls, 253-254
Marketing plan, 303-304
Master formula sheet, 317, 318
Master of science, 417
Master’s in business administration, 417
Master’s in public health, 418
Meaningful use, 196, 197, 198, 201, 203
Media-fill test, 312-313, 315
Medicaid, 298
Medical executive committee, 68, 70
Medical Record, The, 197
Medicare
Part B, 298
Star Rating Program, 292
Medication(s)
cost reduction for, 299
delivery of, 147
management of, 67-87
monitoring of, 5
prescribing, dispensing, administration of, 81
profile for, 129, 133
purchasing, inventory system for, 262
reconciliation of, 11, 97, 108, 121, 423, 428
samples of, 82, 260
selection review of, 72
tracking systems for, 142
Medication administration, 4
parenteral, 341
record for, 129, 133, 134-135, 169, 177
times of, 82
Medication carts, 136
Medication distribution system, 129-149
requirements for, 144
Medication error, 108-110
automation and, 227
categorization of, 110
medication management and, 82
prevention of, 112-113
sterile preparations and, 314-315
types of, 113
Medication Errors, 315
Medication kits, 137-138
Medication list, 82-83
index, 83
Medication orders, 81
for controlled substances, 158-159
Medication safety, 107-127, 429
evaluation of, 72-73
Medication Safety Alert program, 153
Medication-related healthcare costs, 299
Medication-use
cycle, 171
guidelines, 83-84
management, 69
policies, procedures, 81-83
Medication-use evaluation (MUE), 72, 79-80, 151, 160-161
Medication-use process, 3-4, 214, 215-216, 227-228
review of, 68
special information and, 84
MediSpan, 206
Medium risk, 314
MEDMARX, 315, 347
Mentors, 414
Micromedex, 77, 206
Miller, Russell, 99
Milton, Jerrod, 239-267
Minimum cost quantity approach, 250-251
Minimum Standard for Pharmacies in Hospitals, 35
Mirror to Hospital Pharmacy, 19, 23, 26, 32
Misleading labels, 245, 246
Model State Pharmacy Act and Model Rules, 227-228
Monitoring error, 108, 110, 111
Multihospital systems, 3
Multum, 206
Murdaugh, Lee B., 43-65
Murphy, John E., 89-105
Musculoskeletal routes, 337

N
National Academy of Medicine, 26
National Association of Boards of Pharmacy, 169, 185, 227, 424
National Commission for Certifying Agencies, 426
National Committee on Health and Vital Statistics, 203
National Committee for Quality Assurance, 122
National data code, 229
National Fire Protection Association, 55
National Healthcareer Association, 426
National Institute for Occupational Safety and Health (NIOSH), 50
alert, hazardous drugs, 326-327
hazardous drugs list of, 327
National Integrated Accreditation for Healthcare Organizations, 44, 46, 47-48
National Integrated Accreditation for Healthcare Organizations Accreditation Requirements, 48
National Medication Error Reporting Program, 153
National Patient Safety Goals, 47
National Provider Identification number, 298-299
National Quality Forum, 122
Needs assessment, 292, 304
Negative-pressure room, 314, 327
Nelson, Scott D., 195-212
New England Compounding Center, 315-316
New product
budget for, 282
evaluation of, 76-77
Nonformulary
agent, 68
drug review, 78
items, 259-260
Nonrepudiation, 169, 184

O
Occupational Safety and Health Administration (OSHA), 49
Office for Civil Rights, 54
Office of Inspector General, 53
Omnicell, 251
Pharmacy Carousel, 244
Open formulary, 68, 74
Operating budget, 270, 279
Operating statement, 278
Order book, 239, 248-249
Order entry rules, 68, 78
Order interpretation, 82
Ordering error returns, 262
Organization standards, 59
Organizational constraints, 369
Outcome, 108, 117
Outcome assessment, 68, 79
Outsourcing facility, 255

P
Pacesetting style, 371-372
Packaging, 325
Parenteral therapy, 335-357
administration of, 336-337, 341, 347-351
administration documentation of, 346-347
advantages of, 337
disadvantages, risks of, 338-339
drug disposal of, 346
drug preparation, dispensing of, 339-340
safety of, 347-351
Pareto/ABC analysis, 239, 250
Par-level systems, 239, 249-250
Particulate matter, in injections, 338-339
Patient
counseling of, 98-99
billing of, 298
medication profiles for, 180
prescription system for, 128, 131, 132
Patient Care Process, 93-94
services of, 23-24
Patient care providers, 28-29
Patient management system, 169, 176
Patient Protection and Affordable Care Act, 50-51
Patient safety, 51-53
automation and, 215
controlled substances and, 153-154
history of, 25-26
medications and, 114
sterile preparations and, 315-316
Patient-centered integrated model, 5-6
Patient-centered medical home (PCMH), 1, 2, 13
Patient-controlled analgesia, 345
Patterson, Julie A., 335-357
Pay-for-coordination, 300
Pay-for-performance, 292, 300
PDSA (plan, do, study, act) cycle, 79, 115-116
Pediatric dosage ranges, 83
Pennsylvania Hospital, 20
Performance evaluation, 59-60
Performance improvement, 44, 60
Performance motivation, 393
Performance reviews, 396-397
Performance standards, 381, 385, 387-388
Peristaltic pumps, 344
Perpetual inventory, 239, 249-250
Personal health record, 196, 197
Personal protective equipment, 327-328
Personal statement, 415
Personnel management, 382
PEW Charitable Trusts, 315
Pharmaceutical care, 92
Pharmaceuticals
borrowing of, 254-255, 257, 258
ordering of, 254-255
receiving of, 242-243
storing of, 244
Pharmaceuticals, disposal, return of, 260-261
Pharmacist(s), 7-8
champion for, 292, 295
-computer interactions, 176
formulary management and, 74
in charge, 240, 253-254
medication-use process and, 3-5
Pharmacist’s Manual, The, 257
Pharmacokinetics, 76, 96
Pharmacologic class, 76
Pharmacology, 76
Pharmacotherapy complexity, 154
Pharmacy
automation, technologies for, 9-10
care and, 92
education and, 33-34
informatics, 169-172, 181, 188
information system for, 169, 176-179
leadership of, 7
operation of, 303
robotics and, 9
services management of, 181
Pharmacy Advancement Initiative, 423, 427-428
Pharmacy personnel, 381-403
automation and, 230-231, 232
Pharmacy Practice Model Initiative, 423, 426-427
Pharmacy Quality Alliance, 123
Pharmacy technician(s), 8-9, 423, 424
career options for, 423-434
evolving roles of, 428-429
history of, 26, 425
medication distribution by, 144
product handling and, 244-247
salary overview for, 429
traditional roles of, 426-427
Pharmacy Technician Certification Board, 423, 426
Pharmacy Technician Certification Exam, 426
Pharmacy and therapeutics (P&T)
committee, 19, 27-28, 70-74
formulary management by, 81
membership of, 71
responsibilities of, 71-74
therapeutic class review by, 77
therapeutic interchange and, 75
PharmD, 417
Phenytoin, 346
Phillips, Jennifer, 423-434
Physician office practice, 11
Physician's orders, 178
Piston-cylinder pumps, 344
Point-of-care devices, 169, 180
Policies and procedures, 69, 152
development of, 73
for controlled substances, 161-162
Pop-ups, 68, 78
Porter, Robert, 27
Portfolio, 405, 415
Position description, 381, 385, 386
Positive-pressure room, 314
Postgraduate residency education,
training, 34
Postgraduate year 1 residency programs,
90, 95, 416, 418
Postgraduate year 2 residency programs,
90, 95
Potential adverse drug event, 108, 111
Power, 359, 361-362
Power of attorney, 156
authorization for, 152
Prabhu, Emily C., 381-403
Practice at the top of one's license, 423,
429
Practice guidelines, 1, 12
Practice model(s), 2, 5-7
Practice standard(s), 19, 34-35, 57
Prescriber-related DUE, 67, 80
Prescribing, 3-4
Error, 108, 109
Prescription Drug Marketing Act, 262
Prescription Drug Monitoring Program,
160
Prescriptions, 81
Preventing Occupational Exposures to
Antineoplastic and Other Hazardous
Drugs, 326
Primary care, 97-98
Primary engineering control (PEC), 314, 317
Prime vendor
agreement, 240
purchasing, 256-257
Privacy, 184
Privileging, 2, 4
PRN medications, 136-137
Problem-solving processes, 93-94
Process, 108, 117, 119, 294
improvement of, 181
Product
handling of, 244-245
service description for, 303
storage of, 245
Productivity
management of, 272-273
measurement of, 284-285
ratios in, 286
Professional /associations, organizations,
32-33, 55-56
Profit formula, 294
Progressive discipline, 381, 398
Protected health information (PHI), 186
Providence Hospital (Seattle), 27
Public Health Service Act, Section 340B,
256
Published formulary, 82-83, 84
Punishment power, 362
Purchasing, 239-267
managing of, 241-242
Purdom, Arthur, 31
Pyrogens, 314, 316
Pyxis Medstation, 251
Q
Quality
after preparation leaves pharmacy, 328
indicators of, 53
organizations for, 122
Quality assurance (QA)
in automation, 228
in compounding sterile preparations,
316
Quality improvement (QI), 44
models for, 114-116
R
Radio frequency network, 214, 223
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiofrequency identification (RFID)</td>
<td>169, 182</td>
</tr>
<tr>
<td>Receiving process</td>
<td>242-243</td>
</tr>
<tr>
<td>Reconciliation</td>
<td>121</td>
</tr>
<tr>
<td>Recruitment</td>
<td>385</td>
</tr>
<tr>
<td>strategies for</td>
<td>388-389</td>
</tr>
<tr>
<td>References, new drug</td>
<td>77</td>
</tr>
<tr>
<td>Referent power</td>
<td>362</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>311</td>
</tr>
<tr>
<td>Regenstrief Medical Record System</td>
<td>197</td>
</tr>
<tr>
<td>Registered Outsourcing Facilities</td>
<td>255</td>
</tr>
<tr>
<td>Regulations</td>
<td>2, 44, 48, 59. See also specific regulations</td>
</tr>
<tr>
<td>Regulatory bodies</td>
<td>12, 73</td>
</tr>
<tr>
<td>Reinders, Thomas P.</td>
<td>405-421</td>
</tr>
<tr>
<td>Repackaged pharmaceuticals</td>
<td>259, 261</td>
</tr>
<tr>
<td>Residency</td>
<td>90, 94, 409, 416-418</td>
</tr>
<tr>
<td>Resource Conservation &amp; Recovery Act (RCRA)</td>
<td>54, 240, 243, 247</td>
</tr>
<tr>
<td>Resources</td>
<td>294</td>
</tr>
<tr>
<td>Resume</td>
<td>405, 415</td>
</tr>
<tr>
<td>Retention</td>
<td>393-395</td>
</tr>
<tr>
<td>checklist for</td>
<td>394</td>
</tr>
<tr>
<td>Return on equity</td>
<td>270</td>
</tr>
<tr>
<td>Return on investment (ROI)</td>
<td>270, 278-279, 292, 296</td>
</tr>
<tr>
<td>Revenue</td>
<td>270, 275, 292, 297</td>
</tr>
<tr>
<td>Revenue budget</td>
<td>282</td>
</tr>
<tr>
<td>Reward power</td>
<td>362</td>
</tr>
<tr>
<td>Rice, Charles</td>
<td>20, 21</td>
</tr>
<tr>
<td>Risk levels</td>
<td>314</td>
</tr>
<tr>
<td>Roberts, Jonathan</td>
<td>20</td>
</tr>
<tr>
<td>Robotic dispensing system</td>
<td>139</td>
</tr>
<tr>
<td>Robotics</td>
<td>214, 219-220, 222, 244</td>
</tr>
<tr>
<td>Role play interviews</td>
<td>381, 391</td>
</tr>
<tr>
<td>Rosenbloom, S. Trent</td>
<td>195-212</td>
</tr>
<tr>
<td>Rule(s), 44, 48, 59. See also specific rules</td>
<td></td>
</tr>
<tr>
<td>RxNorm, 203</td>
<td></td>
</tr>
</tbody>
</table>

### S

<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe label system</td>
<td>142</td>
</tr>
<tr>
<td>Safety features, in automation</td>
<td>228</td>
</tr>
<tr>
<td>Scheckelhoff, Douglas J.</td>
<td>1-17</td>
</tr>
<tr>
<td>Schedule II narcotics</td>
<td>136, 141</td>
</tr>
<tr>
<td>Schneider, Philip J.</td>
<td>311-334</td>
</tr>
<tr>
<td>Screening interview</td>
<td>389</td>
</tr>
<tr>
<td>Secondary engineering control</td>
<td>314, 319, 327</td>
</tr>
<tr>
<td>Self-administration of medications</td>
<td>82</td>
</tr>
<tr>
<td>Sentinel event</td>
<td>108, 111</td>
</tr>
<tr>
<td>Sharps, 335, 346</td>
<td>364</td>
</tr>
<tr>
<td>Shelf labels</td>
<td>250</td>
</tr>
<tr>
<td>Side effect</td>
<td>108, 111</td>
</tr>
<tr>
<td>Sincak, Carrie A.</td>
<td>423-434</td>
</tr>
<tr>
<td>Situation interviews</td>
<td>381, 391</td>
</tr>
<tr>
<td>Situational theories</td>
<td>359-360, 368-369</td>
</tr>
<tr>
<td>Smart pumps</td>
<td>10, 214, 224-225, 345-346</td>
</tr>
<tr>
<td>SMARTER characteristics</td>
<td>385, 387</td>
</tr>
<tr>
<td>SOAP, 93</td>
<td></td>
</tr>
<tr>
<td>Social Security Act</td>
<td>298</td>
</tr>
<tr>
<td>Spease, Edward</td>
<td>27, 31, 32</td>
</tr>
<tr>
<td>Special handling</td>
<td>257-258</td>
</tr>
<tr>
<td>Special precautions</td>
<td>83</td>
</tr>
<tr>
<td>Specialized hospital</td>
<td>3</td>
</tr>
<tr>
<td>Specialty pharmaceuticals</td>
<td>256</td>
</tr>
<tr>
<td>Specialty pharmacies</td>
<td>256</td>
</tr>
<tr>
<td>Specialty pharmacy practice</td>
<td>256</td>
</tr>
<tr>
<td>St. Francis Hospital (New York City)</td>
<td>22</td>
</tr>
<tr>
<td>Staffing</td>
<td>295-296</td>
</tr>
<tr>
<td>Standard(s), 44, 45, 57-59. See also specific standards</td>
<td></td>
</tr>
<tr>
<td>Standard operating procedures</td>
<td>314, 316, 329</td>
</tr>
<tr>
<td>Standard precautions</td>
<td>336, 340</td>
</tr>
<tr>
<td>State Boards of Pharmacy</td>
<td>54, 316</td>
</tr>
<tr>
<td>Stenner, Shane</td>
<td>195-212</td>
</tr>
<tr>
<td>Sterile compounding</td>
<td></td>
</tr>
<tr>
<td>automation and</td>
<td>9</td>
</tr>
<tr>
<td>preparations, 311-334</td>
<td>311-334</td>
</tr>
<tr>
<td>robots and</td>
<td>222</td>
</tr>
<tr>
<td>Sterile solution manufacturing</td>
<td>24</td>
</tr>
<tr>
<td>Stock rotation</td>
<td>240, 244</td>
</tr>
<tr>
<td>Stop order(s)</td>
<td>68, 81, 152, 155</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td>of sterile compounding, admixtures</td>
<td>326</td>
</tr>
<tr>
<td>process of, 244</td>
<td>244</td>
</tr>
<tr>
<td>temperatures, humidity and</td>
<td>245</td>
</tr>
<tr>
<td>Stress interviews</td>
<td>381, 391</td>
</tr>
<tr>
<td>Structure</td>
<td>108, 117-118, 360, 364</td>
</tr>
<tr>
<td>Structured order entry</td>
<td>182-183</td>
</tr>
<tr>
<td>Student organizations</td>
<td>413</td>
</tr>
<tr>
<td>Subcutaneous</td>
<td>337</td>
</tr>
<tr>
<td>Supply/supplies</td>
<td></td>
</tr>
<tr>
<td>chain management</td>
<td>214, 215-217</td>
</tr>
<tr>
<td>expense, 280-281</td>
<td>360, 368</td>
</tr>
<tr>
<td>Survey, 44, 48</td>
<td>398</td>
</tr>
<tr>
<td>Suspensions</td>
<td>293, 305</td>
</tr>
<tr>
<td>Sustainable services</td>
<td>293, 305</td>
</tr>
<tr>
<td>Swisslog, 244</td>
<td></td>
</tr>
<tr>
<td>SWOT analysis</td>
<td>293, 303-305, 407-408</td>
</tr>
<tr>
<td>Synchronous CDS alerts</td>
<td>183</td>
</tr>
<tr>
<td>Synonym name</td>
<td>83</td>
</tr>
<tr>
<td>Syringe pumps</td>
<td>344</td>
</tr>
<tr>
<td>Systems integration</td>
<td>176-179</td>
</tr>
</tbody>
</table>

### T

<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>TALL MAN lettering</td>
<td>325</td>
</tr>
<tr>
<td>Taper order</td>
<td>152, 155</td>
</tr>
<tr>
<td>Task-oriented leaders</td>
<td>360, 368</td>
</tr>
<tr>
<td>Teaching</td>
<td>428</td>
</tr>
</tbody>
</table>
Teaching hospital, 3
Tech-check-tech, 428
Technology, 214
Temple, Jack, 213-237
Theory X leaders, 367
Theory Y leaders, 367
Therapeutic class, 76
Therapeutic equivalent(s), 68, 75
Therapeutic index, 83
Therapeutic interchange, 68, 75
Therapeutic substitution, 82
Thompson, Kasey K., 1-17
Total parenteral nutrition (TPN), 336, 338
Trace drugs, 119
Trade name, 76, 83
Traditional interviews, 381, 391-392
Training, of compounding personnel, 321
Trait theories, 360, 366-367
Transcription, 4
error, 108, 110, 111
Transfer barrier steps, 320
Transformational style, 370
Transmission, 121
Trigger event, 108

U
Unit dose
    delivery models, 138
drug distribution, 26-27
    process, 133-134
Unit dose system, 26-27, 130, 132-136
drug-use control in, 133-134
Unit-based cabinets, 218
Unit-based dispensing cabinet, 9
United States Pharmacopeia, 21
    Chapter <788>, 338
    Chapter <797>, 314, 316-317, 326-327, 329-330
    Chapter <800>, 314, 316, 326-328, 330
    laws, regulations and, 75
    National Formulary, 314
    purchasing, inventory control and, 244
    sterile preparations and, 315
Unit-of-use package, 130, 135, 136
University teaching hospitals, 2-3
Uselton, John P., 43-65
User interface, 196, 198-199

V
Value proposition, 302-303
Value-based purchasing, 44, 53, 193, 300
Vancomycin, 346
Variable expense, 270, 374
Variance, 270, 283-284
Vasopressors, 346
Vehicle, 336, 339
Verbal orders, 81
Verbal warnings, 398
Verification, 121
Verified Internet Pharmacy Practice Sites (VIPPS), 160, 185-186
VeriSign, 169, 186
Veterans Administration/Affairs, 197
    National Formulary, 75
Vial, 336, 340
Volume budget, 270, 279-280

W
Weitkamp, Asil Ozdas, 195-212
Western Reserve University, 27
Whitney, Harvey A. K., 31
Wilbert, Martin, 20
Wilson, Andrew L., 269-290
Workflow
    informatics and, 181
    software for, 222-223
Workload, 270, 272-273, 276
Written warnings, 398

Z
Zellmer, William A., 19-42