

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
-
- B**
 Background verification, 392-393
 Bacterial endotoxins, 314
 Balance sheet, 269, 276-277
 Bar code technology, 141, 143-144, 217
 Barcode verification, 326
 Bar-coded medication administration (BCMA)
 automation and, 213, 215, 219-220, 223-225, 229
 informatics and, 167, 182
 in practice, 9, 141
 Batch
 compounding, 317
 formulas, records, 317
 Behavioral interviews, 381, 391
 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
-
- C**
 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 healthcare, 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
 Inpatient 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

smart pumps and, 345
 Insulin, 346
 Insurance company billing, 298
 Integrate, 213
 Integrated health systems, 1, 2
 Integrated pharmacy practice, 8
 Interface(s), 168, 174-175, 214, 217
 Intermittent infusion, 343, 344
 Intermountain Healthcare Health
 Evaluation through Logical Processing,
 197
 Internal benchmarking, 270, 285
 Internal standards, 59
 International Organization for
 Standardization (ISO) 9001, 47-48
 Internet, 414
 Internship, 405, 414
 Interoperability, 196, 199-200, 202-203
 Interpretation error, 108, 110, 111
 Interview
 preparation for, 391
 process for, 390-393
 Intra-arterial, 337
 Intradermal, 337
 Intramuscular, 336
 Intranet, 168
 Intrathecal, 335, 345
 Intravenous, 336
 admixture services, 26
 delivery issues, 350
 medication safety, 347-351
 Introduction, background, 303
 Introductory pharmacy practice
 experiences, 412-413
 Inventory
 carrying costs, 239
 maintaining, managing, 247-248
 shelf position in, 247
 turnover, 248
 turns, 239
 Inventory control, 239-267
 managing, 241-243
 Investigational drug(s), 259
 expired, 261
 orders, 81

J

Job
 classifications, 369
 description, 381, 385, 386
 Joint Commission, The (TJC), 12
 controlled substances and, 153-154
 laws, regulations and, 44, 46-48, 59, 60
 medication management and, 73
 medication safety and, 122
 sterile preparations and, 316

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
 billing of, 298
 counseling of, 98-99
 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
- Purdum, 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

Radiofrequency identification (RFID), 169, 182
 Receiving process, 242-243
 Reconciliation, 121
 Recruitment, 385
 strategies for, 388-389
 References, new drug, 77
 Referent power, 362
 Refrigerator, 311
 Regenrief Medical Record System, 197
Registered Outsourcing Facilities, 255
 Regulations, 2, 44, 48, 59. *See also specific regulations*
 Regulatory bodies, 12, 73
 Reinders, Thomas P., 405-421
 Repackaged pharmaceuticals, 259, 261
 Residency, 90, 94, 409, 416-418
 Resource Conservation & Recovery Act (RCRA), 54, 240, 243, 247
 Resources, 294
 Resume, 405, 415
 Retention, 393-395
 checklist for, 394
 Return on equity, 270
 Return on investment (ROI), 270, 278-279, 292, 296
 Revenue, 270, 275, 292, 297
 Revenue budget, 282
 Reward power, 362
 Rice, Charles, 20, 21
 Risk levels, 314
 Roberts, Jonathan, 20
 Robotic dispensing system, 139
 Robotics, 214, 219-220, 222, 244
 Role play interviews, 381, 391
 Rosenbloom, S. Trent, 195-212
 Rule(s), 44, 48, 59. *See also specific rules*
 RxNorm, 203

S

Safe label system, 142
 Safety features, in automation, 228
 Scheckelhoff, Douglas J., 1-17
 Schedule II narcotics, 136, 141
 Schneider, Philip J., 311-334
 Screening interview, 389
 Secondary engineering control, 314, 319, 327
 Self-administration of medications, 82
 Sentinel event, 108, 111
 Sharps, 335, 346
 Shelf labels, 250
 Side effect, 108, 111
 Sincak, Carrie A., 423-434
 Situation interviews, 381, 391
 Situational theories, 359-360, 368-369

Smart pumps, 10, 214, 224-225, 345-346
 SMARTER characteristics, 385, 387
 SOAP, 93
 Social Security Act, 298
 Spease, Edward, 27, 31, 32
 Special handling, 257-258
 Special precautions, 83
 Specialized hospital, 3
 Specialty pharmaceuticals, 256
 Specialty pharmacies, 256
 Specialty pharmacy practice, 256
 St. Francis Hospital (New York City), 22
 Staffing, 295-296
 Standard(s), 44, 45, 57-59. *See also specific standards*
 Standard operating procedures, 314, 316, 329
 Standard precautions, 336, 340
 State Boards of Pharmacy, 54, 316
 Stenner, Shane, 195-212
 Sterile compounding
 automation and, 9
 preparations, 311-334
 robots and, 222
 Sterile solution manufacturing, 24
 Stock rotation, 240, 244
 Stop order(s), 68, 81, 152, 155
 Storage
 of sterile compounding, admixtures, 326
 process of, 244
 temperatures, humidity and, 245
 Stress interviews, 381, 391
 Structure, 108, 117-118, 360, 364
 Structured order entry, 182-183
 Student organizations, 413
 Subcutaneous, 337
 Supply/supplies
 chain management, 214, 215-217
 expense, 280-281
 Supportive behavior, 360, 368
 Survey, 44, 48
 Suspensions, 398
 Sustainable services, 293, 305
 Swisslog, 244
 SWOT analysis, 293, 303-305, 407-408
 Synchronous CDS alerts, 183
 Synonym name, 83
 Syringe pumps, 344
 Systems integration, 176-179

T

TALL MAN lettering, 325
 Taper order, 152, 155
 Task-oriented leaders, 360, 368
 Teaching, 428

Teaching hospital, 3
 Tech-check-tech, 428
 Technology, 214
 Temple, Jack, 213-237
 Theory X leaders, 367
 Theory Y leaders, 367
 Therapeutic class, 76
 review of, 68, 77
 Therapeutic equivalent(s), 68, 75
 Therapeutic index, 83
 Therapeutic interchange, 68, 75
 Therapeutic substitution, 82
 Thompson, Kasey K., 1-17
 340B Drug Pricing Program, 291, 297-298, 299
 Time and motion study, 270, 284
To Err Is Human, 57, 108-109, 203
 Tomich, David J., 151-166
 Total parenteral nutrition (TPN), 336, 338
 Tracer 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