

Index

A

acute myocardial infarction (AMI) 156, 217
 a glyated haemoglobin (A1C) 75
 all patient refined diagnostic related group (APRDRG) 203
 antibiotic delivery 359
 APRDRG 13, 14
 APRDRG code 202, 227, 228
 APRDRG index 203, 204, 208, 210, 214, 217, 222, 226, 228, 231, 233, 234, 235, 237
 APRDRG index level 204
 APRDRG levels 214, 217, 227
 APRDRG mortality index 204, 205, 209, 214, 215, 217, 227, 228, 231, 232
 APRDRG patient index 389
 APRDRG severity grouper 202
 APRDRG severity index 202, 204, 213, 216, 218, 219, 220, 221, 227, 228, 229, 231, 233
 artificial language 289
 artificial neural networks 110
 autoregressive structure 101

B

blocked arteries 50
 body mass index (BMI) 240

C

calculus formulas 36
 CATX function 24
 CATX statement 351
 Cellulitis 289, 290, 325, 330
 Centers for Medicare and Medicaid 347, 354

Central Limit Theorem 74, 77
 cerebral vascular accident (CVA) 217
 Charlson code 170, 172, 173, 250
 Charlson Comorbidity Index (CCI) 153
 Charlson Index 153, 154, 155, 158, 159, 160, 161, 162, 163, 164, 165, 167, 170, 171, 178, 181, 183, 185, 188, 189, 190, 191, 193, 194, 195, 197, 198, 239, 240, 250, 251, 255, 258, 265, 281, 287, 291, 302, 303, 305, 309, 366, 367
 Charlson Index codes 194
 Charlson Index value 160
 Charlson value 159, 168
 chconcat array 25
 chronic illnesses 17
 Chronic osteomyelitis 289
 Chronic ulcer 175, 178
 Claims data 341, 342
 clinical databases 16
 coding patient conditions 12
 coding practices 357
 coding schemes 351
 collinearity 154
 co-morbid 86
 co-morbid conditions 7, 9
 co-morbidities 284
 co-morbidities 288, 291, 293
 comorbidities 2, 4, 10
 congestive heart failure (CHF) 217
 consensus panels 287
 Construct validity 387, 388
 Convergent validity 387
 COPD 83, 86, 87, 88, 89, 92, 104, 105
 COPD (chronic obstructive pulmonary disease) 153

Index

coronary bypass 51, 53
coronary vessels 53
correlation coefficient 11
cost-to-charge ratio 96
CPT codes 5, 15
cubic degree 42
cumulative effect 47
Cumulative lift 123
Cumulative target density 123
curve 36, 38, 39, 41, 64, 65

D

data dictionaries 11
datafile 241
data mining 7, 16, 17, 18, 27, 35
data preprocessing 8, 57
datasets 241, 242
Data visualization 35
decision tree 162, 163, 165, 195
decision trees 208
decomposition 288, 301
default model 113
density function 36, 38, 39
dependency nature 314
detoxification therapy 4
diagnosis codes 3, 8, 13, 25, 32, 86, 87,
104, 105, 110, 118, 119, 153, 162,
174, 175, 177, 185, 193, 197, 202,
226, 227, 233, 287, 288, 289, 290,
297, 309, 317, 324, 330, 364, 365,
366, 367, 368, 370, 371, 372, 376,
377, 378, 379
diagnosis related group (DRG) 203, 343
diagnosis related group (DRG) code 343
digestive system 297, 298, 316
Dmine regression 130, 131, 132, 133, 138,
148, 149, 150
DRG codes 203, 357
drug dependency 314

E

English Rules 266
Enterprise Miner 18, 19, 20, 21, 27, 29
External validity 387
extracted data 16

extraordinary care 35

F

fasting plasma glucose (FPG) 75
female reproductive system 297, 298
fraud 3
functional disability 2

G

gamma distributions 77, 99
Gaussian 39
generalized linear model 110, 113
generalized model 100
general pattern 39
geographic area 35

H

HCPCS codes 349, 351
Health and Human Services (HHS) 5
healthcare environment 112
healthcare outcomes 390
healthcare providers 73
health insurance premiums 3
heart disease 288, 291, 296, 297, 305,
320, 338
hemodialysis 89
heterogeneous 77
homogeneous 77
hospital-acquired infection 376
hospital acquired post-operative infection 376
hospital code 195

I

ICD9 code 161
ICD9 codes 341, 342, 344, 349, 352
immune disorder 43, 45, 46, 47, 48, 49,
114, 118, 123, 125, 127, 128, 129,
135, 136, 138, 140
indicator functions 156, 158, 193
infection control procedures 378, 383
infection prevention 361
intensive care (ICU) 17
Internal validity 387
inverse link function 102

K

kernel density 181, 188, 189
 Kernel density 36, 39, 40, 41, 70, 72
 kernel density comparison 188
 kernel density estimate 262, 367
 kernel density estimation 36, 72, 204, 210, 234, 314
 kernel density graph 96
 kernel function 38
 Kessner Adequacy of Prenatal Care Index 240
 ketoacidosis 204

L

laboratory usage 12
 linear mixed model 100, 101
 linear model 74, 82, 83, 99, 100, 101, 102, 104, 107
 logistic model 387
 logistic regression 8, 11, 17, 22, 27, 73, 74, 97, 98, 99, 100, 108, 153, 154, 162, 163, 167
 logistic regression model 97, 99, 390
 longitudinal linkage 12

M

malignant neoplasm 175, 178
 Medical Expenditure Panel Survey (MEPS) 11, 29, 185
 Medicare data 347
 Medline 70, 71
 Medpar 347, 348, 349, 350, 351, 353
 Medstat 239, 249
 Medstat disease 389
 memory based reasoning 110, 111, 125
 memory-based reasoning model 114
 mental illness 3
 MEPS data 11, 24, 57
 MEPS dataset 58, 344
 MEPS prescription database 58
 methodology 71, 154, 196, 240, 286
 mis-identifying variables 336
 model comparison 114, 125, 151
 Model Comparison 111
 model provider 110

mortality 1, 2, 3, 5, 11, 13, 14, 17, 21, 23, 24, 31, 32, 73, 93, 97, 98, 106, 108
 mortality index 204, 205, 209, 214, 215, 217, 227, 228, 229, 231, 232
 mortality level 162, 178, 195
 mortality rates 136, 139, 140, 158, 161, 199
 MRSA 321, 322, 323, 324, 330, 331, 332, 333, 334, 335, 336, 338, 339, 340, 378, 381
 multicollinearity 86, 87, 89, 154
 multi-dimensional measures 389
 multi-layer perceptron 113

N

National Inpatient Sample 76, 78, 96, 289, 296, 300, 323, 333, 336, 338, 364
 National Inpatient Sample datasets 202
 National Inpatient Sample (NIS) 11, 29
 National Library of Medicine 71
 natural hierarchy 314
 natural ordering 262
 neural network model 191, 195
 neural networks 110, 111, 112, 113, 125, 152, 208, 334
 New Index level 181
 NIS dataset 249
 NIS web site 12
 node 111, 113, 114, 115, 138, 141
 non-clinical journal 71
 non-critical care units 75
 non-mortality 17, 24
 non-normal distributions 107
 nonparametric 110
 non-symmetric 74
 nosocomial illness 339
 nosocomial infection 137, 321, 331, 339, 377, 378, 379, 383, 385
 nosocomial rate 377
 novel technique 27

O

omitted codes 287
 optimal model 209, 217, 228, 232, 234
 optimal predictive model 195
 orthopedic procedures 378

Index

osteomyelitis 289, 329, 330, 331
over-smoothed method (OS) 40

P

parabolic arcs 42
parametric family 39
patient demographic information
 208, 217, 303
Patient demographic information 73
patient outcomes 73, 82, 104
patient's diagnoses 73
patient severity index 73
patient severity model 111
patient sub-groups 42
Peripheral vascular disease (PVD) 217
pneumonia 42, 43, 44, 46, 47, 48, 49,
 114, 123, 125, 128, 129, 135, 136,
 137, 138, 139
Poisson approximation 106
population distribution
 36, 37, 38, 39, 40, 72
pre-determined value 36
predicted value 135, 136, 141
predictive model 114, 117, 125, 133, 138,
 139, 141, 144, 217, 230, 232, 250,
 257, 258, 263, 274, 279, 287, 303,
 309, 315, 319, 324, 336, 337, 387
Predictive modeling 17, 27, 110, 11, 112, 151,
 152
predictive models 110, 112, 125
predict mortality 204, 206, 207, 232
predictors 86, 99
predict patient costs 11
preprocessing methodology 7
prescription database 57, 58
pre-selected criteria 111
procedure clusters 302, 303, 305, 309, 316,
 329, 333, 335, 336
procedure codes 371
PROC KDE 39
profit/loss matrix 334
prophylactic treatment
 324, 331, 333, 334, 335, 338
proprietary code 13
psychiatric institutions 293

psychosocial dysfunction 3

Q

quadratic polynomials 42
quality of providers 153, 190
Quality rankings 135
quantitative variable 162
quartile 82, 105, 106

R

receiver operating curves (ROC) 17
refined DRG codes (RDRG) 203
regression 73, 74, 75, 77, 80, 82, 83, 86,
 87, 90, 91, 92, 93, 94, 95, 97, 98,
 99, 100, 102, 108
regression-based measures 338
regression-based models 285
regression model
 111, 113, 114, 115, 129, 135
regression models 287, 288, 338
rehabilitation therapy 4
reimbursement 357, 358, 359, 362, 363,
 383, 385
renal disease 154, 191
residual graph 94
Resource Demand Level 249, 268, 269,
 270, 271, 272, 274, 280
Resource Level (DS) 250
Resource utilization 239
Rheumatoid arthritis 66
risk adjustment index 188, 197
ROC curve 118, 119, 122, 139, 206, 208,
 209, 335
rule induction models 279

S

sampling method 130
SAS code 76, 77, 83, 87, 106
SAS Enterprise Miner 113
SAS format 11, 12
SAS preprocessing code 344
SAS Text Miner 300
SEARCH database 16, 17, 30, 33
selective estrogen receptor modulator (SERM)
 58

septicemia 43, 44, 46, 47, 48, 49, 82, 114,
 118, 123, 125, 126, 127, 128, 129,
 135, 136, 137, 138
 severity index 110, 135, 202, 204, 209,
 213, 214, 216, 218, 219, 220, 221,
 227, 228, 229, 231, 233, 387, 388,
 390, 391
 severity level 274
 Sheather-Jones plug in (SJPI) 39
 Silverman's rule of thumb (SROT) 40
 simple normal reference (SNR) 40
 Simpson's Rule 36, 41, 72
 Society of Thoracic Surgeons 1, 17, 30, 33
 SPSS format 11
 standard normal density function 36
 Staphylococcus aureus 289, 323, 324, 325,
 326, 339, 340
 statistical methods 16, 17
 SUBSTR function 154

T

Target density 122
 Texas Hospital Checkup 2, 28
 text mining 27, 390, 391
 text mining techniques 339
 Thomson Medstat Marketscan data 354
 traditional statistical methods 72
 transfusion 89
 trapezoidal rule 42
 tree model 195

U

uncontrolled diabetes 75, 109
 under-values 37
 uniformity 110, 123

V

variance functions 102
 visualization techniques 49