```
Model formula:
is_eff ~ region + rural + is_lowincome + age + chronic_count +
    gender

Fitted party:
[1] root
|   [2] is_lowincome in FALSE
|   |   [3] region in Northeast, Southwest: N (n = 324, err = 40.1%)
|   |   [4] region in Northwest
|   |   |   [5] chronic_count <= 1: N (n = 39, err = 15.4%)
|   |   |   [6] chronic_count > 1
|   |   |   |   [7] rural in Rural, Semi-Rural, Urban: N (n = 46, err = 30.4%)
|   |   |   |   [8] rural in Suburban: Y (n = 22, err = 36.4%)
|   |   [9] region in Central
|   |   |   [10] rural in Rural, Semi-Rural: N (n = 68, err = 47.1%)
|   |   |   [11] rural in Suburban: Y (n = 77, err = 39.0%)
|   |   |   [12] rural in Urban
|   |   |   |   [13] chronic_count <= 4
|   |   |   |   |   [14] gender in F: Y (n = 64, err = 43.8%)
|   |   |   |   |   [15] gender in M: N (n = 25, err = 28.0%)
|   |   |   |   [16] chronic_count > 4: N (n = 6, err = 0.0%)
|   |   [17] region in Southeast
|   |   |   [18] gender in M: Y (n = 83, err = 47.0%)
|   |   |   [19] gender in F
|   |   |   |   [20] rural in Suburban, Urban: N (n = 181, err = 39.8%)
|   |   |   |   [21] rural in Rural
|   |   |   |   |   [22] age <= 73: N (n = 11, err = 27.3%)
|   |   |   |   |   [23] age > 73: Y (n = 2, err = 0.0%)
|   |   |   |   [24] rural in Semi-Rural
|   |   |   |   |   [25] age <= 73: N (n = 37, err = 32.4%)
|   |   |   |   |   [26] age > 73: Y (n = 11, err = 18.2%)
|   [27] is_lowincome in TRUE
|   |   [28] chronic_count <= 4
|   |   |   [29] rural in Semi-Rural: Y (n = 62, err = 38.7%)
|   |   |   [30] rural in Rural
|   |   |   |   [31] region in Northeast, Southwest: N (n = 7, err = 28.6%)
|   |   |   |   [32] region in Northwest: Y (n = 5, err = 20.0%)
|   |   |   |   [33] region in Central
|   |   |   |   |   [34] age <= 64: N (n = 7, err = 14.3%)
|   |   |   |   |   [35] age > 64: Y (n = 5, err = 20.0%)
|   |   |   |   [36] region in Southeast
|   |   |   |   |   [37] chronic_count <= 2: N (n = 7, err = 28.6%)
|   |   |   |   |   [38] chronic_count > 2: Y (n = 6, err = 16.7%)
|   |   |   [39] rural in Urban
|   |   |   |   [40] chronic_count <= 0
|   |   |   |   |   [41] age <= 77: Y (n = 28, err = 39.3%)
|   |   |   |   |   [42] age > 77: N (n = 4, err = 25.0%)
|   |   |   |   [43] chronic_count > 0
|   |   |   |   |   [44] age <= 66: N (n = 71, err = 35.2%)
|   |   |   |   |   [45] age > 66: Y (n = 65, err = 44.6%)
|   |   |   [46] rural in Suburban
|   |   |   |   [47] region in Central, Southwest: Y (n = 39, err = 41.0%)
|   |   |   |   [48] region in Northwest
|   |   |   |   |   [49] chronic_count <= 1: N (n = 3, err = 0.0%)
|   |   |   |   |   [50] chronic_count > 1: Y (n = 10, err = 20.0%)
|   |   |   |   [51] region in Northeast
|   |   |   |   |   [52] age <= 50: N (n = 3, err = 0.0%)
|   |   |   |   |   [53] age > 50
|   |   |   |   |   |   [54] chronic_count <= 3: Y (n = 17, err = 23.5%)
|   |   |   |   |   |   [55] chronic_count > 3: N (n = 4, err = 25.0%)
|   |   |   |   [56] region in Southeast
|   |   |   |   |   [57] chronic_count <= 1: N (n = 26, err = 38.5%)
|   |   |   |   |   [58] chronic_count > 1
|   |   |   |   |   |   [59] chronic_count <= 3: Y (n = 26, err = 26.9%)
|   |   |   |   |   |   [60] chronic_count > 3: N (n = 8, err = 25.0%)
|   |   [61] chronic_count > 4: N (n = 31, err = 29.0%)

Number of inner nodes:    25
Number of terminal nodes: 36
```

```
Model formula:
is_eff ~ region + rural + is_lowincome + age + chronic_count +
    gender

Fitted party:
[1] root
|   [2] is_lowincome in TRUE
|   |   [3] rural in Suburban: N (n = 283, err = 42.4%)
|   |   [4] rural in Rural
|   |   |   [5] gender in F: Y (n = 16, err = 31.2%)
|   |   |   [6] gender in M
|   |   |   |   [7] chronic_count <= 0: Y (n = 4, err = 0.0%)
|   |   |   |   [8] chronic_count > 0: N (n = 51, err = 37.3%)
|   |   [9] rural in Semi-Rural
|   |   |   [10] region in Northeast, Southeast: Y (n = 101, err = 45.5%)
|   |   |   [11] region in Northwest, Southwest: N (n = 26, err = 34.6%)
|   |   |   [12] region in Central
|   |   |   |   [13] chronic_count <= 0: Y (n = 10, err = 20.0%)
|   |   |   |   [14] chronic_count > 0: N (n = 41, err = 43.9%)
|   |   [15] rural in Urban
|   |   |   [16] region in Central, Northwest: Y (n = 143, err = 43.4%)
|   |   |   [17] region in Northeast: N (n = 58, err = 43.1%)
|   |   |   [18] region in Southeast
|   |   |   |   [19] chronic_count <= 4: Y (n = 82, err = 48.8%)
|   |   |   |   [20] chronic_count > 4: N (n = 9, err = 0.0%)
|   |   |   [21] region in Southwest
|   |   |   |   [22] gender in F: N (n = 6, err = 33.3%)
|   |   |   |   [23] gender in M: Y (n = 33, err = 42.4%)
|   [24] is_lowincome in FALSE
|   |   [25] chronic_count <= 1: N (n = 256, err = 37.5%)
|   |   [26] chronic_count > 1
|   |   |   [27] rural in Rural: N (n = 38, err = 36.8%)
|   |   |   [28] rural in Suburban
|   |   |   |   [29] chronic_count <= 2: Y (n = 52, err = 30.8%)
|   |   |   |   [30] chronic_count > 2
|   |   |   |   |   [31] age <= 64: Y (n = 31, err = 45.2%)
|   |   |   |   |   [32] age > 64: N (n = 33, err = 33.3%)
|   |   |   [33] rural in Semi-Rural
|   |   |   |   [34] chronic_count <= 2: N (n = 31, err = 29.0%)
|   |   |   |   [35] chronic_count > 2
|   |   |   |   |   [36] chronic_count <= 3: Y (n = 21, err = 47.6%)
|   |   |   |   |   [37] chronic_count > 3
|   |   |   |   |   |   [38] age <= 66: Y (n = 9, err = 11.1%)
|   |   |   |   |   |   [39] age > 66: N (n = 14, err = 35.7%)
|   |   |   [40] rural in Urban
|   |   |   |   [41] region in Northeast, Southwest: N (n = 55, err = 36.4%)
|   |   |   |   [42] region in Northwest: Y (n = 11, err = 45.5%)
|   |   |   |   [43] region in Southeast
|   |   |   |   |   [44] age <= 78: Y (n = 47, err = 46.8%)
|   |   |   |   |   [45] age > 78: N (n = 5, err = 0.0%)
|   |   |   |   [46] region in Central
|   |   |   |   |   [47] age <= 71
|   |   |   |   |   |   [48] chronic_count <= 4: N (n = 27, err = 40.7%)
|   |   |   |   |   |   [49] chronic_count > 4: Y (n = 5, err = 20.0%)
|   |   |   |   |   [50] age > 71: Y (n = 11, err = 9.1%)

Number of inner nodes:    20
Number of terminal nodes: 30
```

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Model formula:
is_eff ~ region + rural + is_lowincome + age + chronic_count +
    gender

Fitted party:
[1] root
|   [2] chronic_count <= 2
|   |   [3] rural in Rural
|   |   |   [4] age <= 63: N (n = 13, err = 7.7%)
|   |   |   [5] age > 63: Y (n = 28, err = 39.3%)
|   |   [6] rural in Suburban
|   |   |   [7] is_lowincome in FALSE
|   |   |   |   [8] region in Northwest, Southeast: N (n = 47, err = 38.3%)
|   |   |   |   [9] region in Central
|   |   |   |   |   [10] age <= 65: N (n = 15, err = 33.3%)
|   |   |   |   |   [11] age > 65: Y (n = 11, err = 9.1%)
|   |   |   |   [12] region in Northeast
|   |   |   |   |   [13] age <= 56: Y (n = 5, err = 20.0%)
|   |   |   |   |   [14] age > 56: N (n = 13, err = 38.5%)
|   |   |   |   [15] region in Southwest
|   |   |   |   |   [16] chronic_count <= 0: N (n = 2, err = 0.0%)
|   |   |   |   |   [17] chronic_count > 0
|   |   |   |   |   |   [18] chronic_count <= 1: Y (n = 4, err = 25.0%)
|   |   |   |   |   |   [19] chronic_count > 1: N (n = 4, err = 25.0%)
|   |   |   [20] is_lowincome in TRUE
|   |   |   |   [21] region in Central, Northwest: N (n = 14, err = 35.7%)
|   |   |   |   [22] region in Northeast
|   |   |   |   |   [23] chronic_count <= 0: Y (n = 4, err = 0.0%)
|   |   |   |   |   [24] chronic_count > 0: N (n = 10, err = 40.0%)
|   |   |   |   [25] region in Southwest
|   |   |   |   |   [26] chronic_count <= 0: Y (n = 2, err = 0.0%)
|   |   |   |   |   [27] chronic_count > 0: N (n = 4, err = 25.0%)
|   |   |   |   [28] region in Southeast
|   |   |   |   |   [29] chronic_count <= 1: Y (n = 10, err = 10.0%)
|   |   |   |   |   [30] chronic_count > 1
|   |   |   |   |   |   [31] age <= 66: Y (n = 4, err = 0.0%)
|   |   |   |   |   |   [32] age > 66: N (n = 3, err = 0.0%)
|   |   [33] rural in Semi-Rural
|   |   |   [34] region in Central: N (n = 18, err = 27.8%)
|   |   |   [35] region in Southwest: Y (n = 15, err = 20.0%)
|   |   |   [36] region in Northeast
|   |   |   |   [37] chronic_count <= 0: Y (n = 3, err = 0.0%)
|   |   |   |   [38] chronic_count > 0: N (n = 16, err = 31.2%)
|   |   |   [39] region in Northwest
|   |   |   |   [40] is_lowincome in TRUE: N (n = 4, err = 25.0%)
|   |   |   |   [41] is_lowincome in FALSE
|   |   |   |   |   [42] chronic_count <= 0: N (n = 3, err = 33.3%)
|   |   |   |   |   [43] chronic_count > 0: Y (n = 6, err = 16.7%)
|   |   |   [44] region in Southeast
|   |   |   |   [45] chronic_count <= 0: Y (n = 5, err = 0.0%)
|   |   |   |   [46] chronic_count > 0
|   |   |   |   |   [47] chronic_count <= 1: Y (n = 8, err = 25.0%)
|   |   |   |   |   [48] chronic_count > 1
|   |   |   |   |   |   [49] age <= 77
|   |   |   |   |   |   |   [50] age <= 60: Y (n = 7, err = 28.6%)
|   |   |   |   |   |   |   [51] age > 60: N (n = 7, err = 0.0%)
|   |   |   |   |   |   [52] age > 77: Y (n = 3, err = 0.0%)
|   |   [53] rural in Urban
|   |   |   [54] region in Central
|   |   |   |   [55] gender in F: Y (n = 28, err = 35.7%)
|   |   |   |   [56] gender in M: N (n = 25, err = 36.0%)
|   |   |   [57] region in Northwest
|   |   |   |   [58] gender in F: N (n = 10, err = 30.0%)
|   |   |   |   [59] gender in M
|   |   |   |   |   [60] is_lowincome in FALSE: Y (n = 2, err = 0.0%)
|   |   |   |   |   [61] is_lowincome in TRUE: N (n = 3, err = 33.3%)
|   |   |   [62] region in Southwest
|   |   |   |   [63] gender in M: Y (n = 11, err = 27.3%)
|   |   |   |   [64] gender in F
|   |   |   |   |   [65] chronic_count <= 0: Y (n = 4, err = 25.0%)
|   |   |   |   |   [66] chronic_count > 0: N (n = 12, err = 25.0%)
|   |   |   [67] region in Northeast
|   |   |   |   [68] is_lowincome in FALSE
|   |   |   |   |   [69] gender in F
|   |   |   |   |   |   [70] chronic_count <= 1: N (n = 12, err = 33.3%)
|   |   |   |   |   |   [71] chronic_count > 1: Y (n = 8, err = 37.5%)
|   |   |   |   |   [72] gender in M
|   |   |   |   |   |   [73] age <= 60: N (n = 2, err = 0.0%)
|   |   |   |   |   |   [74] age > 60: Y (n = 2, err = 0.0%)
|   |   |   |   [75] is_lowincome in TRUE
|   |   |   |   |   [76] chronic_count <= 0: N (n = 3, err = 0.0%)
|   |   |   |   |   [77] chronic_count > 0
|   |   |   |   |   |   [78] age <= 65: Y (n = 5, err = 20.0%)
|   |   |   |   |   |   [79] age > 65: N (n = 5, err = 20.0%)
|   |   |   [80] region in Southeast
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|   |   |   |   [81] is_lowincome in TRUE
|   |   |   |   |   [82] age <= 66: Y (n = 8, err = 0.0%)
|   |   |   |   |   [83] age > 66
|   |   |   |   |   |   [84] age <= 82: N (n = 13, err = 23.1%)
|   |   |   |   |   |   [85] age > 82: Y (n = 2, err = 0.0%)
|   |   |   |   [86] is_lowincome in FALSE
|   |   |   |   |   [87] chronic_count <= 0
|   |   |   |   |   |   [88] gender in M: N (n = 8, err = 37.5%)
|   |   |   |   |   |   [89] gender in F
|   |   |   |   |   |   |   [90] age <= 61: Y (n = 4, err = 0.0%)
|   |   |   |   |   |   |   [91] age > 61: N (n = 4, err = 25.0%)
|   |   |   |   |   [92] chronic_count > 0
|   |   |   |   |   |   [93] gender in F: N (n = 23, err = 30.4%)
|   |   |   |   |   |   [94] gender in M
|   |   |   |   |   |   |   [95] age <= 71: Y (n = 5, err = 20.0%)
|   |   |   |   |   |   |   [96] age > 71: N (n = 3, err = 0.0%)
|   [97] chronic_count > 2
|   |   [98] region in Northwest: N (n = 23, err = 26.1%)
|   |   [99] region in Northeast
|   |   |   [100] rural in Semi-Rural: Y (n = 17, err = 35.3%)
|   |   |   [101] rural in Urban: N (n = 26, err = 19.2%)
|   |   |   [102] rural in Rural
|   |   |   |   [103] chronic_count <= 4
|   |   |   |   |   [104] age <= 72: N (n = 2, err = 0.0%)
|   |   |   |   |   [105] age > 72: Y (n = 2, err = 0.0%)
|   |   |   |   [106] chronic_count > 4: N (n = 2, err = 0.0%)
|   |   |   [107] rural in Suburban
|   |   |   |   [108] age <= 73
|   |   |   |   |   [109] gender in F: N (n = 3, err = 33.3%)
|   |   |   |   |   [110] gender in M: Y (n = 4, err = 25.0%)
|   |   |   |   [111] age > 73: N (n = 4, err = 0.0%)
|   |   [112] region in Southwest
|   |   |   [113] chronic_count <= 4
|   |   |   |   [114] rural in Rural: N (n = 3, err = 33.3%)
|   |   |   |   [115] rural in Semi-Rural
|   |   |   |   |   [116] age <= 64: Y (n = 2, err = 0.0%)
|   |   |   |   |   [117] age > 64: N (n = 3, err = 33.3%)
|   |   |   |   [118] rural in Suburban
|   |   |   |   |   [119] is_lowincome in FALSE: N (n = 3, err = 33.3%)
|   |   |   |   |   [120] is_lowincome in TRUE: Y (n = 6, err = 16.7%)
|   |   |   |   [121] rural in Urban
|   |   |   |   |   [122] is_lowincome in FALSE: Y (n = 8, err = 25.0%)
|   |   |   |   |   [123] is_lowincome in TRUE: N (n = 6, err = 0.0%)
|   |   |   [124] chronic_count > 4: N (n = 8, err = 12.5%)
|   |   [125] region in Central
|   |   |   [126] rural in Rural
|   |   |   |   [127] chronic_count <= 3: Y (n = 4, err = 25.0%)
|   |   |   |   [128] chronic_count > 3: N (n = 8, err = 25.0%)
|   |   |   [129] rural in Suburban
|   |   |   |   [130] age <= 55: N (n = 4, err = 0.0%)
|   |   |   |   [131] age > 55: Y (n = 15, err = 40.0%)
|   |   |   [132] rural in Semi-Rural
|   |   |   |   [133] age <= 66: N (n = 9, err = 0.0%)
|   |   |   |   [134] age > 66
|   |   |   |   |   [135] chronic_count <= 3
|   |   |   |   |   |   [136] age <= 75: N (n = 2, err = 0.0%)
|   |   |   |   |   |   [137] age > 75: Y (n = 2, err = 0.0%)
|   |   |   |   |   [138] chronic_count > 3: Y (n = 2, err = 0.0%)
|   |   |   [139] rural in Urban
|   |   |   |   [140] chronic_count <= 3: N (n = 14, err = 42.9%)
|   |   |   |   [141] chronic_count > 3
|   |   |   |   |   [142] chronic_count <= 4
|   |   |   |   |   |   [143] age <= 60: N (n = 5, err = 0.0%)
|   |   |   |   |   |   [144] age > 60: Y (n = 6, err = 16.7%)
|   |   |   |   |   [145] chronic_count > 4: Y (n = 9, err = 44.4%)
|   |   [146] region in Southeast
|   |   |   [147] is_lowincome in FALSE: N (n = 57, err = 36.8%)
|   |   |   [148] is_lowincome in TRUE
|   |   |   |   [149] age <= 78
|   |   |   |   |   [150] rural in Rural: NA (n = 0, err = NA)
|   |   |   |   |   [151] rural in Semi-Rural
|   |   |   |   |   |   [152] chronic_count <= 3: N (n = 2, err = 0.0%)
|   |   |   |   |   |   [153] chronic_count > 3: Y (n = 4, err = 25.0%)
|   |   |   |   |   [154] rural in Urban
|   |   |   |   |   |   [155] age <= 51: N (n = 2, err = 0.0%)
|   |   |   |   |   |   [156] age > 51: Y (n = 8, err = 12.5%)
|   |   |   |   |   [157] rural in Suburban
|   |   |   |   |   |   [158] chronic_count <= 3: Y (n = 4, err = 25.0%)
|   |   |   |   |   |   [159] chronic_count > 3
|   |   |   |   |   |   |   [160] age <= 69: N (n = 2, err = 0.0%)
|   |   |   |   |   |   |   [161] age > 69: Y (n = 3, err = 33.3%)
|   |   |   |   [162] age > 78: N (n = 3, err = 0.0%)

Number of inner nodes:    69
Number of terminal nodes: 93
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Model formula:
is_eff ~ region + rural + is_lowincome + age + chronic_count +
    gender

Fitted party:
[1] root
|   [2] is_lowincome in FALSE
|   |   [3] chronic_count <= 1: N (n = 191, err = 37.2%)
|   |   [4] chronic_count > 1
|   |   |   [5] rural in Semi-Rural, Urban: Y (n = 205, err = 44.9%)
|   |   |   [6] rural in Rural
|   |   |   |   [7] chronic_count <= 4: N (n = 18, err = 33.3%)
|   |   |   |   [8] chronic_count > 4: Y (n = 4, err = 0.0%)
|   |   |   [9] rural in Suburban
|   |   |   |   [10] region in Northwest, Southeast, Southwest: N (n = 52, err = 36.5%)
|   |   |   |   [11] region in Central
|   |   |   |   |   [12] age <= 73: N (n = 18, err = 11.1%)
|   |   |   |   |   [13] age > 73: Y (n = 5, err = 20.0%)
|   |   |   |   [14] region in Northeast
|   |   |   |   |   [15] age <= 71: Y (n = 22, err = 22.7%)
|   |   |   |   |   [16] age > 71: N (n = 3, err = 0.0%)
|   [17] is_lowincome in TRUE
|   |   [18] rural in Semi-Rural: Y (n = 126, err = 40.5%)
|   |   [19] rural in Rural
|   |   |   [20] gender in F: Y (n = 10, err = 40.0%)
|   |   |   [21] gender in M: N (n = 45, err = 37.8%)
|   |   [22] rural in Suburban
|   |   |   [23] region in Central, Southwest: N (n = 83, err = 45.8%)
|   |   |   [24] region in Northeast, Northwest: Y (n = 75, err = 38.7%)
|   |   |   [25] region in Southeast
|   |   |   |   [26] age <= 71: Y (n = 42, err = 40.5%)
|   |   |   |   [27] age > 71
|   |   |   |   |   [28] chronic_count <= 1: Y (n = 6, err = 33.3%)
|   |   |   |   |   [29] chronic_count > 1: N (n = 12, err = 8.3%)
|   |   [30] rural in Urban
|   |   |   [31] region in Central: Y (n = 80, err = 38.8%)
|   |   |   [32] region in Northwest
|   |   |   |   [33] chronic_count <= 3: Y (n = 23, err = 43.5%)
|   |   |   |   [34] chronic_count > 3: N (n = 6, err = 33.3%)
|   |   |   [35] region in Southeast
|   |   |   |   [36] age <= 50: Y (n = 11, err = 9.1%)
|   |   |   |   [37] age > 50: N (n = 79, err = 41.8%)
|   |   |   [38] region in Southwest
|   |   |   |   [39] gender in F: N (n = 4, err = 25.0%)
|   |   |   |   [40] gender in M: Y (n = 25, err = 32.0%)
|   |   |   [41] region in Northeast
|   |   |   |   [42] gender in F: Y (n = 7, err = 14.3%)
|   |   |   |   [43] gender in M
|   |   |   |   |   [44] age <= 67: Y (n = 32, err = 31.2%)
|   |   |   |   |   [45] age > 67: N (n = 23, err = 21.7%)

Number of inner nodes:    18
Number of terminal nodes: 27
```