The Atherosclerosis Risk in Communities (ARIC) Study

Sensitivity, specificity, likelihood ratio positive, and likelihood ratio negative for HbA1c cut-points

Prevalent Diabetes: Definition 1

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.5	100.00%	0.00%	1	
3.6	100.00%	0.03%	1.0003	0
3.7	100.00%	0.04%	1.0004	0
3.9	100.00%	0.06%	1.0006	0
4.0	100.00%	0.08%	1.0008	0
4.1	100.00%	0.11%	1.0011	0
4.2	100.00%	0.14%	1.0014	0
4.3	100.00%	0.23%	1.0023	0
4.4	100.00%	0.40%	1.004	0
4.5	100.00%	0.54%	1.0054	0
4.6	100.00%	0.93%	1.0094	0
4.7	99.88%	1.61%	1.0152	0.0737
4.8	99.52%	2.84%	1.0244	0.1675
4.9	99.29%	5.07%	1.0458	0.141
5.0	98.81%	8.86%	1.0842	0.1343
5.1	97.98%	14.55%	1.1466	0.1391
5.2	97.02%	22.28%	1.2483	0.1336
5.3	96.31%	31.64%	1.4088	0.1167
5.4	94.05%	43.40%	1.6616	0.1371
5.5	91.19%	55.41%	2.0453	0.159
5.6	91.07%	63.19%	2.4744	0.1413
5.7	87.38%	72.14%	3.1367	0.1749
5.8	83.57%	79.86%	4.1501	0.2057
5.9	79.52%	85.45%	5.4667	0.2396
6.0	74.88%	90.13%	7.5891	0.2787
6.1	69.64%	93.45%	10.629	0.3249
6.2	63.10%	95.55%	14.1843	0.3862
6.3	57.02%	96.95%	18.7054	0.4433
6.4	52.14%	97.91%	24.9878	0.4888
6.5	47.14%	98.59%	33.4742	0.5361
6.6	43.10%	99.06%	46.0406	0.5744
6.7	38.33%	99.37%	61.1497	0.6206
6.8	33.21%	99.52%	69.0686	0.6711
6.9	29.76%	99.66%	86.6435	0.7048
7.0	27.38%	99.74%	106.2835	0.7281
7.1	23.93%	99.81%	126.6604	0.7622
7.2	20.71%	99.85%	134.011	0.7941

7.3	18.81%	99.89%	168.4938	0.8128
7.4	16.67%	99.92%	215.6499	0.834
7.5	14.88%	99.93%	216.5992	0.8518
7.6	13.93%	99.93%	202.7369	0.8613
7.7	12.86%	99.93%	187.1418	0.872
7.8	12.26%	99.93%	178.4778	0.878
7.9	11.55%	99.93%	168.081	0.8851
8.0	11.43%	99.93%	166.3482	0.8863
8.1	10.83%	99.94%	180.2191	0.8922
8.2	10.60%	99.94%	176.2583	0.8946
8.3	9.40%	99.94%	156.454	0.9065
8.4	9.05%	99.94%	150.5127	0.9101
8.5	8.81%	99.94%	146.5518	0.9125
8.6	8.57%	99.95%	166.3667	0.9148
8.7	8.21%	99.96%	191.3047	0.9183
8.8	7.86%	99.96%	182.9871	0.9218
8.9	7.50%	99.96%	174.6695	0.9254
9.0	7.02%	99.96%	163.5794	0.9302
9.1	6.90%	99.96%	160.8069	0.9314
9.2	6.55%	99.96%	152.4893	0.9349
9.3	6.43%	99.96%	149.7167	0.9361
9.5	6.31%	99.96%	146.9442	0.9373
9.7	6.07%	99.96%	141.3991	0.9397
9.8	5.48%	99.96%	127.5365	0.9456
9.9	5.24%	99.96%	121.9914	0.948
10.0	5.00%	99.96%	116.4463	0.9504
10.1	4.52%	99.96%	105.3562	0.9552
10.3	4.17%	99.96%	97.0386	0.9587
10.4	3.81%	99.97%	110.9111	0.9622
10.5	3.45%	99.98%	201.0264	0.9656
10.6	3.21%	99.98%	187.1625	0.968
10.8	2.86%	99.98%	166.3667	0.9716
10.9	2.62%	99.98%	152.5028	0.974
11.0	2.26%	99.98%	131.707	0.9775
11.2	2.14%	99.99%	249.4392	0.9787
11.3	2.02%	99.99%	235.5815	0.9798
11.5	1.90%	99.99%	221.7238	0.981
11.8	1.79%	99.99%	207.866	0.9822
11.9	1.67%	99.99%	194.0083	0.9834
12.1	1.55%	99.99%	180.1506	0.9846
12.2	1.43%	99.99%	166.2928	0.9858
12.7	1.31%	99.99%	152.4351	0.987
12.8	1.19%	99.99%	138.5773	0.9882
12.9	1.07%	99.99%	124.7196	0.9894

13.0	0.83%	99.99%	97.0041	0.9918
13.5	0.60%	99.99%	69.2887	0.9941
13.6	0.48%	100.00%	0.9952	
14.0	0.24%	100.00%	0.9976	
15.7	0.12%	100.00%	0.9988	
15.7	0.00%	100.00%	1	

Prevalent Diabetes: Definition 2

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.5	100.00%	0.00%	1	
3.6	100.00%	0.03%	1.0003	0
3.7	100.00%	0.04%	1.0004	0
3.9	100.00%	0.06%	1.0006	0
4.0	100.00%	0.08%	1.0008	0
4.1	100.00%	0.11%	1.0011	0
4.2	100.00%	0.13%	1.0013	0
4.3	100.00%	0.23%	1.0023	0
4.4	100.00%	0.39%	1.0039	0
4.5	100.00%	0.53%	1.0053	0
4.6	100.00%	0.86%	1.0087	0
4.7	100.00%	1.53%	1.0156	0
4.8	100.00%	2.69%	1.0276	0
4.9	100.00%	4.81%	1.0505	0
5.0	100.00%	8.49%	1.0928	0
5.1	100.00%	13.96%	1.1622	0
5.2	99.57%	21.46%	1.2678	0.0199
5.3	99.57%	30.46%	1.4318	0.014
5.4	98.29%	41.84%	1.6899	0.0409
5.5	97.44%	53.40%	2.0909	0.048
5.6	97.44%	60.82%	2.4868	0.0422
5.7	94.87%	69.54%	3.1142	0.0737
5.8	91.88%	77.06%	4.006	0.1054
5.9	88.46%	82.58%	5.0789	0.1397
6.0	84.62%	87.25%	6.6348	0.1763
6.1	81.20%	90.70%	8.7277	0.2073
6.2	77.35%	93.07%	11.156	0.2434
6.3	71.37%	94.68%	13.4216	0.3024
6.4	69.23%	95.85%	16.7021	0.321
6.5	66.67%	96.80%	20.8412	0.3443
6.6	62.39%	97.43%	24.2703	0.386
6.7	58.12%	97.97%	28.5623	0.4275
6.8	53.42%	98.35%	32.382	0.4736
6.9	49.15%	98.64%	36.2281	0.5155
7.0	46.15%	98.83%	39.3692	0.5448

7.1	41.45%	99.02%	42.3104	0.5913
7.2	38.46%	99.20%	48.3479	0.6203
7.3	37.18%	99.35%	56.9225	0.6323
7.4	34.62%	99.47%	65.6154	0.6573
7.5	32.48%	99.56%	73.1815	0.6782
7.6	29.91%	99.56%	68.7007	0.7039
7.7	28.63%	99.61%	74.3328	0.7164
7.8	27.35%	99.63%	74.2318	0.7292
7.9	26.50%	99.67%	79.1027	0.7375
8.0	26.07%	99.67%	77.8269	0.7418
8.1	25.21%	99.70%	83.6406	0.7501
8.2	24.36%	99.70%	80.8053	0.7587
8.3	22.22%	99.74%	85.605	0.7798
8.4	20.94%	99.74%	80.6663	0.7927
8.5	20.51%	99.75%	81.6551	0.7969
8.6	20.09%	99.77%	85.6645	0.801
8.7	19.66%	99.79%	93.9039	0.8051
8.8	18.80%	99.80%	93.5652	0.8136
8.9	18.38%	99.82%	99.7469	0.8177
9.0	17.09%	99.82%	97.208	0.8305
9.1	16.67%	99.82%	94.7778	0.8348
9.2	15.81%	99.83%	94.4108	0.8433
9.3	15.81%	99.84%	99.3817	0.8432
9.5	15.38%	99.84%	96.6957	0.8475
9.7	14.96%	99.85%	99.2346	0.8517
9.8	13.68%	99.87%	102.0692	0.8644
9.9	13.68%	99.88%	116.6496	0.8643
10.0	13.25%	99.88%	113.0043	0.8685
10.1	11.54%	99.88%	98.4231	0.8857
10.3	10.68%	99.89%	98.1388	0.8941
10.4	9.83%	99.91%	106.7104	0.9025
10.5	8.97%	99.92%	119.0815	0.9109
10.6	8.55%	99.93%	127.5938	0.9151
10.8	7.26%	99.93%	108.4547	0.928
10.9	6.41%	99.93%	95.6954	0.9365
11.0	5.13%	99.93%	76.5563	0.9494
11.2	5.13%	99.95%	102.075	0.9492
11.3	4.70%	99.95%	93.5688	0.9535
11.5	4.27%	99.95%	85.0625	0.9577
11.8	4.27%	99.96%	102.0657	0.9577
11.9	3.85%	99.96%	91.8592	0.9619
12.1	3.42%	99.96%	81.6526	0.9662
12.2	3.42%	99.97%	102.0518	0.9661
12.7	2.99%	99.97%	89.2953	0.9704

12.8	2.56%	99.97%	76.5388	0.9747
12.9	2.56%	99.97%	102.0595	0.9746
13.0	1.71%	99.97%	68.0397	0.9832
13.5	1.28%	99.98%	76.5563	0.9873
13.6	0.85%	99.98%	51.0375	0.9916
14.0	0.43%	99.99%	51.0143	0.9958
15.7	0.43%	100.00%	0.9957	
15.7	0.00%	100.00%	1	

Incident Diabetes: Definition A

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.5	100.00%	0.00%	1	
3.6	100.00%	0.04%	1.0004	0
3.7	100.00%	0.05%	1.0005	0
3.9	100.00%	0.07%	1.0007	0
4.0	100.00%	0.08%	1.0008	0
4.1	100.00%	0.12%	1.0012	0
4.2	100.00%	0.15%	1.0015	0
4.3	100.00%	0.25%	1.0025	0
4.4	99.92%	0.41%	1.0033	0.1868
4.5	99.77%	0.55%	1.0032	0.418
4.6	99.69%	0.95%	1.0065	0.3224
4.7	99.62%	1.69%	1.0133	0.2258
4.8	99.39%	3.01%	1.0248	0.203
4.9	98.85%	5.35%	1.0444	0.2144
5.0	98.09%	9.39%	1.0826	0.2035
5.1	96.56%	15.39%	1.1413	0.2235
5.2	94.72%	23.59%	1.2396	0.2237
5.3	92.20%	33.39%	1.3842	0.2336
5.4	88.61%	45.69%	1.6316	0.2493
5.5	82.95%	58.03%	1.9763	0.2938
5.6	82.80%	66.38%	2.4626	0.2591
5.7	77.14%	75.43%	3.1394	0.3031
5.8	70.11%	83.03%	4.1304	0.36
5.9	63.23%	88.40%	5.4516	0.416
6.0	54.97%	92.61%	7.4344	0.4863
6.1	47.25%	95.49%	10.4744	0.5524
6.2	39.98%	97.16%	14.0956	0.6177
6.3	33.64%	98.19%	18.5481	0.6759
6.4	28.59%	98.88%	25.6195	0.7221
6.5	24.08%	99.40%	39.8363	0.7638
6.6	20.34%	99.64%	56.0657	0.7995
6.7	16.90%	99.77%	72.6645	0.833
6.8	13.61%	99.80%	69.6758	0.8656

6.9	11.54%	99.87%	88.664	0.8857
7.0	10.17%	99.90%	99.3934	0.8992
7.1	8.56%	99.92%	102.2996	0.9151
7.2	6.88%	99.93%	105.6798	0.9318
7.3	5.73%	99.94%	102.7563	0.9432
7.4	4.51%	99.94%	80.835	0.9554
7.5	3.75%	99.94%	67.1341	0.9631
7.6	3.59%	99.94%	64.394	0.9646
7.7	3.13%	99.94%	56.1734	0.9692
7.8	2.98%	99.94%	53.4333	0.9707
8.0	2.68%	99.94%	47.9529	0.9738
8.2	2.45%	99.95%	52.6112	0.976
8.4	2.06%	99.95%	44.3907	0.9798
8.5	1.99%	99.95%	42.7466	0.9806
8.6	1.91%	99.96%	51.3676	0.9813
8.7	1.68%	99.96%	45.2035	0.9835
8.8	1.61%	99.96%	43.1488	0.9843
8.9	1.45%	99.96%	39.0394	0.9858
9.1	1.38%	99.96%	36.9847	0.9866
9.2	1.30%	99.96%	34.93	0.9874
9.5	1.22%	99.96%	32.8753	0.9881
9.7	1.15%	99.96%	30.8206	0.9889
9.8	0.99%	99.96%	26.7112	0.9904
10.1	0.84%	99.96%	22.6018	0.992
10.3	0.76%	99.96%	20.547	0.9927
10.4	0.69%	99.97%	24.6615	0.9934
10.5	0.61%	99.99%	65.764	0.994
11.0	0.54%	99.99%	57.5435	0.9947
11.5	0.46%	100.00%	0.9954	
12.1	0.38%	100.00%	0.9962	
12.8	0.31%	100.00%	0.9969	
13.0	0.23%	100.00%	0.9977	
13.6	0.15%	100.00%	0.9985	
14.0	0.08%	100.00%	0.9992	
14.0	0.00%	100.00%	1	

Incident Diabetes: Definition B

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.5	100.00%	0.00%	1	
3.6	100.00%	0.04%	1.0004	0
3.7	100.00%	0.05%	1.0005	0
3.9	99.96%	0.06%	1.0002	0.6293
4.0	99.96%	0.08%	1.0004	0.472
4.1	99.96%	0.12%	1.0008	0.3147

4.2	99.96%	0.15%	1.0011	0.2517
4.3	99.92%	0.25%	1.0018	0.3021
4.4	99.85%	0.43%	1.0027	0.3596
4.5	99.77%	0.58%	1.0035	0.3975
4.6	99.66%	1.00%	1.0067	0.3433
4.7	99.35%	1.74%	1.0111	0.3732
4.8	98.97%	3.12%	1.0215	0.331
4.9	98.51%	5.64%	1.044	0.2644
5.0	97.40%	9.87%	1.0806	0.2636
5.1	94.84%	15.97%	1.1285	0.3235
5.2	91.20%	24.20%	1.2032	0.3636
5.3	86.76%	34.13%	1.3172	0.3878
5.4	80.03%	46.42%	1.4936	0.4302
5.5	72.26%	58.78%	1.7531	0.4719
5.6	67.75%	66.77%	2.0389	0.483
5.7	60.79%	75.80%	2.5117	0.5173
5.8	51.95%	82.89%	3.0362	0.5797
5.9	44.87%	87.95%	3.7254	0.6268
6.0	37.49%	91.92%	4.6374	0.6801
6.1	31.48%	94.68%	5.9196	0.7236
6.2	26.78%	96.47%	7.5958	0.759
6.3	22.61%	97.54%	9.1841	0.7934
6.4	19.32%	98.22%	10.8351	0.8215
6.5	16.60%	98.72%	13.0069	0.8448
6.6	14.50%	99.07%	15.5563	0.8631
6.7	12.59%	99.33%	18.8238	0.88
6.8	10.90%	99.49%	21.5245	0.8955
6.9	9.64%	99.62%	25.0418	0.9071
7.0	8.53%	99.63%	22.7595	0.9181
7.1	7.38%	99.70%	24.2939	0.929
7.2	6.31%	99.73%	23.0768	0.9394
7.3	5.59%	99.75%	22.0532	0.9465
7.4	4.86%	99.78%	21.7995	0.9535
7.5	4.32%	99.80%	21.3355	0.9587
7.6	4.02%	99.80%	19.8251	0.9618
7.7	3.75%	99.82%	20.5587	0.9643
7.8	3.56%	99.82%	19.5098	0.9662
7.9	3.33%	99.82%	18.2511	0.9685
8.0	3.29%	99.82%	18.0413	0.9689
8.1	3.14%	99.84%	19.3536	0.9702
8.2	3.06%	99.84%	18.8815	0.971
8.3	2.68%	99.84%	16.5214	0.9748
8.4	2.56%	99.84%	15.8133	0.976
8.5	2.49%	99.84%	15.3413	0.9767

8.6	2.45%	99.86%	17.2625	0.9769
8.7	2.30%	99.86%	16.1836	0.9784
8.8	2.18%	99.86%	15.3745	0.9796
8.9	2.10%	99.87%	15.9763	0.9803
9.0	1.95%	99.87%	14.8144	0.9818
9.1	1.91%	99.87%	14.5239	0.9822
9.2	1.80%	99.87%	13.6525	0.9833
9.3	1.76%	99.87%	13.362	0.9837
9.5	1.72%	99.87%	13.0715	0.9841
9.7	1.64%	99.87%	12.4906	0.9848
9.8	1.45%	99.87%	11.0382	0.9868
9.9	1.38%	99.87%	10.4572	0.9875
10.0	1.38%	99.89%	12.3588	0.9873
10.1	1.26%	99.90%	12.4619	0.9884
10.3	1.19%	99.91%	13.0065	0.989
10.4	1.15%	99.94%	18.8813	0.9891
10.5	1.03%	99.96%	25.4865	0.9901
10.6	0.96%	99.96%	23.5986	0.9908
10.8	0.84%	99.96%	20.7668	0.992
10.9	0.77%	99.96%	18.8789	0.9928
11.0	0.65%	99.96%	16.047	0.9939
11.2	0.61%	99.97%	20.1375	0.9942
11.3	0.57%	99.97%	18.8789	0.9946
11.5	0.54%	99.97%	17.6203	0.9949
11.8	0.50%	99.97%	16.3617	0.9953
11.9	0.46%	99.97%	15.1031	0.9957
12.1	0.42%	99.97%	13.8445	0.9961
12.2	0.38%	99.97%	12.5859	0.9965
12.7	0.34%	99.97%	11.3273	0.9969
12.8	0.34%	99.98%	16.9974	0.9968
12.9	0.31%	99.98%	15.1088	0.9971
13.0	0.23%	99.98%	11.3316	0.9979
13.5	0.15%	99.98%	7.5544	0.9987
13.6	0.15%	100.00%	0.9985	
14.0	0.08%	100.00%	0.9992	
15.7	0.04%	100.00%	0.9996	
15.7	0.00%	100.00%	1	

NHANES III Subsample

Sensitivity, specificity, likelihood ratio positive, and likelihood ratio negative for HbA1c cut-points

Prevalent Diabetes: Definition 1

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.8	100.00%	0.00%	1	
4.0	100.00%	0.30%	1.003	0
4.1	100.00%	0.76%	1.0076	0
4.2	100.00%	1.06%	1.0107	0
4.3	100.00%	1.51%	1.0153	0
4.4	100.00%	1.81%	1.0185	0
4.5	100.00%	3.02%	1.0312	0
4.6	100.00%	4.83%	1.0508	0
4.7	100.00%	7.40%	1.0799	0
4.8	100.00%	11.03%	1.1239	0
4.9	100.00%	17.67%	1.2147	0
5.0	100.00%	21.75%	1.278	0
5.1	96.55%	29.00%	1.3599	0.1189
5.2	96.55%	37.01%	1.5328	0.0932
5.3	96.55%	43.96%	1.7228	0.0784
5.4	96.55%	53.17%	2.0618	0.0649
5.5	93.10%	62.84%	2.5055	0.1097
5.6	93.10%	68.88%	2.992	0.1001
5.7	93.10%	75.68%	3.8282	0.0911
5.8	93.10%	82.33%	5.2679	0.0838
5.9	89.66%	87.16%	6.9826	0.1187
6.0	82.76%	90.63%	8.8365	0.1902
6.1	82.76%	92.45%	10.9572	0.1865
6.2	79.31%	94.71%	15.001	0.2184
6.3	75.86%	96.22%	20.0883	0.2509
6.4	68.97%	97.13%	24.0291	0.3195
6.5	62.07%	98.04%	31.6074	0.3869
6.6	58.62%	98.94%	55.4383	0.4182
6.7	58.62%	99.09%	64.6784	0.4176
6.8	55.17%	99.70%	182.6243	0.4496
6.9	51.72%	99.85%	342.4206	0.4835
7.1	48.28%	99.85%	319.5926	0.518
7.3	44.83%	99.85%	296.7646	0.5526
7.4	41.38%	99.85%	273.9365	0.5871
7.5	37.93%	99.85%	251.1085	0.6216
7.6	34.48%	99.85%	228.2804	0.6562

8.0	31.03%	100.00%	0.6897	
8.9	27.59%	100.00%	0.7241	
9.5	24.14%	100.00%	0.7586	
9.7	20.69%	100.00%	0.7931	
10.0	17.24%	100.00%	0.8276	
10.7	10.34%	100.00%	0.8966	
11.8	6.90%	100.00%	0.931	
12.1	3.45%	100.00%	0.9655	
12.1	0.00%	100.00%	1	

Prevalent Diabetes: Definition 2

Cutpoint	Sensitivity	Specificity	LR+	LR-
3.8	100.00%	0.00%	1	
4.0	100.00%	0.30%	1.003	0
4.1	100.00%	0.75%	1.0075	0
4.2	100.00%	1.04%	1.0106	0
4.3	100.00%	1.49%	1.0152	0
4.4	100.00%	1.79%	1.0182	0
4.5	100.00%	2.99%	1.0308	0
4.6	100.00%	4.78%	1.0502	0
4.7	100.00%	7.31%	1.0789	0
4.8	100.00%	10.90%	1.1223	0
4.9	100.00%	17.46%	1.2116	0
5.0	100.00%	21.49%	1.2738	0
5.1	95.24%	28.66%	1.3349	0.1662
5.2	95.24%	36.57%	1.5014	0.1302
5.3	95.24%	43.43%	1.6836	0.1096
5.4	95.24%	52.54%	2.0066	0.0906
5.5	90.48%	62.09%	2.3866	0.1534
5.6	90.48%	68.06%	2.8327	0.1399
5.7	90.48%	74.78%	3.5869	0.1274
5.8	90.48%	81.34%	4.8495	0.1171
5.9	85.71%	86.12%	6.1751	0.1659
6.0	76.19%	89.55%	7.2925	0.2659
6.1	76.19%	91.34%	8.8013	0.2607
6.2	76.19%	93.73%	12.1542	0.254
6.3	76.19%	95.37%	16.467	0.2496
6.4	76.19%	96.57%	22.1946	0.2466
6.5	71.43%	97.61%	29.9107	0.2927
6.6	66.67%	98.51%	44.6666	0.3384
6.7	66.67%	98.66%	49.6296	0.3379
6.8	61.90%	99.25%	82.9523	0.3838
6.9	57.14%	99.40%	95.7142	0.4311
7.1	57.14%	99.55%	127.619	0.4305

7.3	52.38%	99.55%	116.984	0.4783
7.4	52.38%	99.70%	175.4761	0.4776
7.5	52.38%	99.85%	350.9521	0.4769
7.6	47.62%	99.85%	319.0474	0.5246
8.0	42.86%	100.00%	0.5714	
8.9	38.10%	100.00%	0.619	
9.5	33.33%	100.00%	0.6667	
9.7	28.57%	100.00%	0.7143	
10.0	23.81%	100.00%	0.7619	
10.7	14.29%	100.00%	0.8571	
11.8	9.52%	100.00%	0.9048	
12.1	4.76%	100.00%	0.9524	
12.1	0.00%	100.00%	1	