

Supplementary Table 4. Validation of diagnostic codes for diabetic neuropathy except sudomotor function test in diagnosis of gold standard

	Diagnosis of gold standard (NCV or sudomotor test + specific treatment)				Diagnosis of gold standard except sudomotor test (NCV + specific treatment)							
	Total	True	False	PPV (%)	Sensitivity (%)	Specificity (%)	Total	True	False	PPV (%)	Sensitivity (%)	Specificity (%)
Secondary hospital												
Diagnostic codes ^a (≥ 2 hospital visit)	100	59	41	59.0 (59.0–59.0)			100	59	41	59.0 (59.0–59.0)		
Diagnostic codes ^b (≥ 3 hospital visit)	98	58	40	59.2 (48.8–69.1)	98.3 (90.1–99.9)	2.4 (1.0–12.9)	98	58	40	59.2 (48.8–69.1)	98.3 (90.1–99.9)	2.4 (1.0–12.9)
Diagnostic codes ^a + NCS	65	50	15	76.9 (64.8–86.5)	84.8 (73.0–92.8)	63.4 (46.9–77.9)	65	50	15	76.9 (64.8–86.5)	84.8 (73.0–92.8)	63.4 (46.9–77.9)
Diagnostic codes ^a + prescription ^c	86	58	28	67.4 (56.5–77.2)	98.3 (90.9–99.9)	31.7 (18.1–48.1)	86	58	28	67.4 (56.5–77.2)	98.3 (90.9–99.9)	31.7 (18.1–48.1)
Diagnostic codes ^a + NCS + prescription ^c	63	50	13	79.4 (67.3–88.5)	84.8 (73.0–92.8)	68.3 (51.9–81.9)	63	50	13	79.4 (67.3–88.5)	84.8 (73.0–92.8)	68.3 (51.9–81.9)
Tertiary hospital												
Diagnostic codes ^a (≥ 2 hospital visit)	100	51	49	51.0 (51.0–51.0)			100	50	50	50.0 (50.0–50.0)		
Diagnostic codes ^b (≥ 3 hospital visit)	95	50	45	52.6 (42.1–63.0)	98.0 (89.6–99.9)	8.2 (2.3–19.6)	95	49	46	51.6 (41.1–62.0)	98.0 (89.4–99.9)	8.0 (2.2–19.2)
Diagnostic codes ^a + NCS	61	46	15	75.4 (62.7–85.5)	90.2 (78.6–96.7)	69.4 (54.6–81.8)	61	45	16	73.8 (60.9–84.2)	90.0 (78.2–96.7)	68.0 (53.3–80.5)
Diagnostic codes ^a + prescription ^c	70	44	26	62.9 (50.5–74.1)	86.3 (73.7–94.3)	46.9 (32.5–61.7)	70	43	27	61.4 (49.0–72.8)	86.0 (73.3–94.2)	46.0 (31.8–60.7)
Diagnostic codes ^a + NCS + prescription ^c	49	41	8	83.7 (70.3–92.7)	80.4 (66.9–90.2)	83.7 (70.3–92.7)	49	40	9	81.6 (68.0–91.2)	80.0 (66.3–90.0)	82.0 (68.6–91.4)
Total												
Diagnostic codes ^a (≥ 2 hospital visit)	200	110	90	55.0 (55.0–55.0)			200	109	91	54.5 (54.5–54.5)		
Diagnostic codes ^b (≥ 3 hospital visit)	193	108	85	56.0 (48.7–63.1)	98.2 (93.6–99.8)	5.6 (1.8–12.5)	193	107	86	55.4 (48.1–62.6)	98.2 (93.5–99.8)	5.5 (1.8–12.4)
Diagnostic codes ^a + NCS	126	96	30	76.2 (67.8–83.3)	87.3 (79.6–92.9)	66.7 (56.0–76.3)	126	95	31	75.4 (66.9–82.6)	87.2 (79.4–92.8)	65.9 (55.3–75.6)
Diagnostic codes ^a + prescription ^c	156	102	54	65.4 (57.4–72.8)	92.7 (86.2–96.8)	40.0 (29.8–50.9)	156	101	55	64.7 (56.7–72.2)	92.7 (86.1–96.8)	39.6 (29.5–50.4)
Diagnostic codes ^a + NCS + prescription ^c	112	91	21	81.3 (72.8–88.0)	82.7 (74.4–89.3)	76.7 (66.6–84.9)	112	90	22	80.4 (71.8–87.3)	82.6 (74.1–89.2)	75.8 (65.7–84.2)

Values are presented as number (95% confidence interval).

NCV, nerve conduction study; PPV, positive predictive value; NCS, nerve conduction study.

^aVisited the hospital more than once with all diagnostic codes (hospital admission + outpatient clinic); ^bVisited the hospital more than twice with all diagnostic codes (hospital admission + outpatient clinic); ^cPathogenic treatments (α-lipoic acid) or symptomatic treatment (γ-aminobutyric acid analog, such as gabapentin or pregabalin; serotonin-norepinephrine reuptake inhibitors, such as duloxetine or venlafaxine; and tricyclic agents, such as amitriptyline or nortriptyline).