

# Supplementary Material

## Identification of Early Onset Dementia in Population-Based Health Administrative Data: A Validation Study Using Primary Care Electronic Medical Records

**Supplementary Table 1.** Performance metrics of best performing within electronic medical record (EMR) algorithms for late onset dementia using the Electronic Medical Record Primary Care (EMRPC) database

<b>Within EMR Algorithms</b>	<b>Sensitivity (95% CI)</b>	<b>Specificity (95% CI)</b>	<b>PPV (95% CI)</b>	<b>NPV (95%CI)</b>	<b>Youden Index</b>
<b>CPP (including terms for cognitive impairment)</b>	44.9 (36.9-53.0)	99.7 (99.4-99.9)	87.5 (78.2-93.8)	97.4 (96.8-97.9)	0.45
<b>CPP (excluding terms for cognitive impairment)</b>	37.8 (30.2-45.9)	99.9 (99.8-100.0)	96.7 (88.7-99.6)	97.1 (96.5-97.6)	0.38
<b>Any prescription (Rx)</b>	49.4 (41.3-57.5)	99.8 (99.5-100.0)	90.6 (82.3-100.0)	97.6 (97.0-98.1)	0.49
<b>Any Code290</b>	73.7 (66.1-80.4)	97.0 (96.4-97.6)	54.4 (47.5-61.4)	98.7 (98.3-99.1)	0.71
<b>CPP (excluding terms for cognitive impairment) OR Rx</b>	64.7 (56.7-72.2)	99.7 (99.4-99.9)	91.0 (84.1-95.6)	98.3 (97.8-98.7)	0.64
<b>Rx or Code290x2 at any time</b>	75.0 (67.4-81.6)	98.6 (98.1-98.9)	71.3 (63.8-78.1)	98.8 (98.4-99.1)	0.74
<b>CPP (excluding terms for cognitive impairment) or Code 290x3 in 3 years or Rx</b>	72.4 (64.7-79.3)	99.4 (99.0-99.6)	84.3 (77.0-90.0)	98.7 (98.2-99.0)	0.72

CPP, cumulative patient profile; Code, Ontario Health Insurance Plan physician claims code; Rx, dementia prescription

**Supplementary Table 2.** Early Onset Dementia ICD 9 and ICD-10-CA codes

Type	Code	description
ICD-10-CA	F00	Dementia in Alzheimer's disease (G30.-+)
	F000	Dementia in Alzheimer's disease with early onset
	F001	Dementia in Alzheimer's disease with late onset
	F002	Dementia in Alzheimer's disease, atypical or mixed type
	F009	Dementia in Alzheimer's disease, unspecified
	F01	Vascular dementia
	F010	Vascular dementia of acute onset
	F011	Multi-infarct dementia
	F012	Subcortical vascular dementia
	F013	Mixed cortical and subcortical vascular dementia
	F018	Other vascular dementia
	F019	Vascular dementia, unspecified
	F02	Dementia in other diseases classified elsewhere
	F020	Dementia in Pick's disease
	F021	Dementia in Creutzfeldt-Jakob disease
	F022	Dementia in Huntington's disease
	F023	Dementia in Parkinson's disease
	F024	Dementia in human immunodeficiency virus [HIV] disease
	F028	Dementia in other specified diseases classified elsewhere
	F03	Unspecified dementia
	G30	Alzheimer's disease
	G300	Alzheimer's disease with early onset
	G301	Alzheimer's disease with late onset
	G308	Other Alzheimer's disease
	G3080	Alzheimer's disease with Huntington's disease
	G3081	Alzheimer's disease with Parkinson's disease
	G3082	Alzheimer's disease with Pick's disease
	G3088	Other Alzheimer's disease
	G309	Alzheimer's disease, unspecified
ICD-9	0461	JAKOB-CREUTZFELDT DIS
	2900	SENILE DEMENTIA UNCOMP
	2901	PRESENILE DEMENTIA
	29010	PRESENILE DEMENTIA
	29011	PRESENILE DELIRIUM
	29012	PRESENILE DELUSION
	29013	PRESENILE DEPRESSION
	2902	SENILE DELUSION
	29020	SENILE DELUSION
	29021	SENILE DEPRESSIVE

	2903	SENILE DELIRIUM
	2904	ARTERIOSCLER DEMENT NOS
	29040	ARTERIOSCLER DEMENT NOS
	29041	ARTERIOSCLER DELIRIUM
	29042	ARTERIOSCLER DELUSION
	29043	ARTERIOSCLER DEPRESSIVE
	2940	AMNESTIC SYNDROME
	2941	DEMENTIA IN OTH DISEASES
	3310	ALZHEIMER'S DISEASE
	3311	PICK'S DISEASE