Supplemental Table 4. Studies reporting the prevalence of hyperlipidemia in multiple sclerosis

Study (Year)	Region/ Sub-Region	Source/ Population	Prevalence Day/Period	Diagnostic Criteria: MS/ Established By	Diagnostic Criteria: Hyperlipidemia/ Established By	Crude Overall Prevalence (95%CI)	Age-Standardized Overall Prevalence (95%CI)	Crude Prevalence (95%CI)		Standardized Prevalence (95%CI)		Quality Score
								Males	Females	Males	Females	
Allen[7] (2008)	United States/ New York	SPARCS/ 95% of New York State acute care hospitalizations	1988-2002	ICD-9-CM 340.0 as secondary discharge diagnosis	ICD-9-CM 272 from primary and secondary discharge diagnosis	298/9,949 = 3.0%	NR	NR	NR	NR	NR	4/8
Buchanan[16] (2006)	United States	Randomly selected from NMSS membership	Oct 2004-Jan 2005	Mailed Survey	Telephone survey/ Mailed survey	Urban 13.7% Adjacent rural 11.9% Remote rural 12.2%	NR	NR	NR	NR	NR	2/9
Horton[26] (2010)	Canada/ Manitoba United States/ Ohio	Participants recruited from 2 different MS clinics	Oct 2008-Oct 2009	MacDonald 2005; diagnosed by neurologist at MS clinic	The Self-Administered Comorbidity Questionnaire (validated questionnaire).	55/404 = 15.6% by medical records 60/404 = 14.9% by questionnaire	NR	NR	NR	NR	NR	5/8

					Validated by medical records data.							
Kang[8] (2010)	Taiwan	NHIRD population, age ≥15 years	2007	ICD-9-CM code 340	ICD-9-CM 272.0-272.4 at least one hospital or two ambulatory claims	126/898 = 14.0%	NR	NR	NR	NR	NR	4/8
Kanjwal[29] (2010)	United States/ Toledo, Ohio	Patients followed up at the University of Toledo Autonomic Disorder Center	1998-2008	Neurologist (criteria not specified)	Medical chart review/physician letters review	5/9 = 55.6%	NR	NR	NR	NR	NR	3/8
Khan[9] (2007)	Australia/Melbourne	MS database Royal Melbourne Hospital	Jan 2005-Feb 2005	Neurologist diagnosed: Poser and Paty	Self-report	12/62 = 19.4%	NR	NR	NR	NR	NR	6/9
LaVela[10] (2012)	United States	National cohort of male Veterans with MS, members of veteran	2003, 2004	Veterans Benefits Department confirmed	Telephone and mailed survey (Multiple Sclerosis- Health Care Questionnaire using questions similar to BRFSS)	NR	NR	553/ 1,142 = 48.5%	NR	NR	NR	4/8

		service organization										
Marrie[35] [a](2008) Marrie[51] [b](2011)	United States	NARCOMS Registry population (volunteers)	October 2006	Self-report	Online/Mailed Survey	3,237/8,757 = 37.0% At MS onset: 227/8,427 = 2.7% At MS diagnosis: 555/8427 = 6.6%	NR	NR	NR	NR	NR	5/9
Marrie[34] (2012)	Canada/ Manitoba	Entire Manitoba population	April 1, 1984-March 31, 2007	1984–1997 all cases with≥7 hospital or physician claims for MS. 1998-2007 all cases with ≥3 hospital, physician or prescription claims for MS.	ICD-9 272, ICD-10 E780, E782, E784, E785, ATC codes C10 (lipid modifying agents) ≥1 hospital or 2 physician claims or 2 prescription claims in five years	NR	13.8% (12.4-15.2)	NR	NR	NR	NR	8/8
Nuyen[39] (2006)	Netherlands	DNSGP	2001	ICPC code N86	Consultation with GP during (1-year period) ICPC codes T82;	11/241 = 4.6%	NR	NR	NR	NR	NR	5/8

					T83; T93							
Paz Soldan[40] (2012)	United States/ Minnesota	All MS patients living in Olmsted County in 2000	2000	Poser	Medical Chart Review	81/201 = 40.3%	NR	NR	NR	NR	NR	6/8
Sheu[44] (2013)	Taiwan	LHID 2000 Database of Taiwan, incident MS enrolled in registry of catastrophic illness, and age >18 years	Jan 2002-Dec 2009	LHID Database. ICD-9-CM code 340 and certified by neurologist (Poser)	LHID Database. Codes not specified	55/316= 17.4%	NR	NR	NR	NR	NR	5/8
Sun[52] (2013)	Taiwan	NHIRD Incident MS cases diagnosed 1997-2010	1997-2010	ICD-9-CM code 340	ICD-9-CM code 250	73/1292 = 5.65%	NR	NR	NR	NR	NR	5/8

NR: Not Reported, SPARCS: New York Department of Health Statewide Planning and Research Cooperate System, NHIRD: National Health Insurance Research Database, BRFSS: Behavioral Risk Factor Surveillance System, NARCOMS: North American Research Committee on Multiple Sclerosis, DNSGP: Dutch National Survey of General Practice, GP: General Practitioner, LHID 2000 Database: Taiwan Longitudinal Health Insurance Database.

a- Self-reported diagnoses of MS previously validated in random sample of study population against medical records and physician report; b – reported in another manuscript using the same study population