Abstract 91 Table 1 Summary of the DFRM and contemporary studies

Reference	Publication	n	Age (SD)	%age male	Diagnosis of CAD
Diamond-Forrester	NEJM 1979	4952	-	-	-
Jensen	JCCT 2009	551	56 (10)	46%	70% stenosis CT
PREDICT	Ann Intern Med 2010	1166	60 (11)	58%	QCA angio 50%
CAD Consortium	EHJ 2011	2272	62 (10)	67%	50% stenosis CT
CONFIRM male	Circ 2011	7719	57 (11)	100%	50% stenosis CT
CONFIRM female		6329	60 (11)	-	-
Pickett	Am J Cardiol 2013	1027	50 (12)	59%	50% stenosis CT of vessel 1.5 mm
Chen	PLOS One 2014	377	64 (9)	69%	Gensini score 20
Winther	Int J Cardiov Im 2016	228	62 (10)	53%	QCA angio 50%
PROMISE male	Circ Cardiov Im 2016	4246	59 (8)	100%	Positive stress nuclear, stress echo or exercise ECG
PROMISE female		4270	62 (8)	-	-
PARTNERS	Circ 2016	2274	56 (13)	57%	50% CT
Ferreira	Int J Cardiol 2016	1069	59 (11)	41%	50% CT
Contemporary cohorts (2009–16)		31 528	59 (10)		

Abstract 91 Table 2 Dramatic variation in the nature of chest pain in contemporary studies and association with CAD

Nature of pain	% of patients in group (range)		% of patients with obstructive CAD (range)		Crude relative risk of CAD (range)	
	DFRM	Other studies	DFRM	Other studies	DFRM	Other studies
typical angina	43%	14% (7%–53%)	89%	27% (9%–88%)	5.6	1.7 (1.1–3.0)
atypical angina	39%	41% (15%–87%)	50%	14% (9%–72%)	3.1	1.1 (0.5–1.9)
non-anginal chest pain	18%	30% (11%–66%)	16%	22% (8%–53%)	1	1

also wide and dramatically varying crude relative rates of CAD (Table 2), such that in some studies, having atypical angina conferred a lower crude RR of CAD.

Conclusions Many of the contemporary studies assessing the DFRM constitute a lower risk cohort and we opine that classification of the nature of chest pain in several of them was very different to that used in the DFRM, such that produced striking results not consistent with other data. Although many studies have criticised the DFRM for over-estimating the rate

of CAD, we opine that some contemporary studies were intrinsically flawed, which was the opposite of what we had expected.

92 PRIMARY CARE PRESCRIPTIONS FOR STATINS IN ENGLAND 1998–2015

¹Sadaf Raza*, ²Ketna Patel, ³Hitesh Patel, ²Christopher Primus, ¹Sara Tyebally, ²Sanjeev Bhattacharyya, ¹Carl Hayward. ¹Bart Health NHS Trust; ²Barts Health NHS Trust; ³Imperial College London

10.1136/heartjnl-2017-311726.91

Introduction Statins are widely prescribed for the prevention of cardiovascular events. A change in 2014 of the National Institute for Health and Care Excellence (NICE) guidelines for the primary prevention of cardiovascular events, lowered the threshold for prescribing statins from a 10 year risk of cardiovascular events of 20% to 10%. It was anticipated that this would result in over 4 million new patients commencing a statin. We sought to determine the trends in statin prescriptions in primary care in England over a 17 year period. We also analysed data from the Quality and Outcomes Framework (QOF) in 2015/16 to assess QOF achievement for prescription of statins for primary prevention.

Methods We conducted a nationwide retrospective study. Data were obtained from the Prescription Cost Analysis system, which holds information on every prescription dispensed in the community in England, covering a population of over 50 million people. We obtained data for four statins from 1998 to 2015. We analysed data collected from the Quality and Outcomes Framework, an incentive programme rewarding primary care for achieving targets. We reviewed the outcomes of care commissioning groups (CCGs) for the QOF indicator CVDPP001 defined as: for primary prevention in patients with hypertension and a cardiovascular risk assessment score 20%, the proportion treated with a statin.

Results The total number of statins prescribed has increased annually from 1998 (4.5 million prescriptions) to 2015 (66.3 million prescriptions) in a sigmoid pattern (Figure 1). There has not been a significant increase in statin prescriptions since the change in NICE guidelines in 2014. The majority of statin prescriptions are for simvastatin or atorvastatin. From 1998 to 2005 both were prescribed equally and more frequently on an annual basis. In 2005 prescriptions for atorvastatin fell, then plateaued, while prescriptions for simvastatin increased. In 2012 prescriptions for atorvastatin increased while simvastatin prescriptions fell. For QOF CVDPP001, out of 209 CCGs, 49 achieved 100% and the vast majority reached >95% (Figure 2).

Conclusions Our data demonstrate that the number of statin prescriptions has increased annually from 1998 to 2015. The 2014 NICE guidance has not resulted in a significant increase in statin prescriptions, in fact the rate of increase in prescriptions is beginning to plateau. The QOF for statin use in primary prevention has not yet adopted the new NICE guidelines and it may be that a change in prescribing trends is only seen after this occurs. The current QOF target is achieved to a high degree so it is likely that a new QOF with a 10% risk cut-off could also be met. The trends in prescribing of simvastatin and atorvastatin are likely cost driven, with an increase in simvastatin prescribing in 2004 and atorvastatin prescribing in 2012 correlating to the expiration of the UK patents for each drug.

Prescriptions of Statins in Primary Care in England 1998-2005

Abstract 92 Figure 1

Abstract 92 Figure 2

93

MARRIED PATIENTS WITH MODIFIABLE CARDIOVASCULAR RISK FACTORS HAVE LOWER MORTALITY RATES

¹Paul Carter*, ¹Hardeep Uppal, ²Suresh Chandran, ¹Rahul Potluri. ¹ACALM Study Unit in collaboration with Aston Medical School; ²Department of Acute Medicine

10.1136/heartjnl-2017-311726.92

Background Ischaemic heart disease (IHD) is the leading cause of mortality worldwide. Although modifiable cardiovascular risk factors, such as hypertension, diabetes and hyperlipidaemia, account for a large proportion of IHD the extent to which they are controlled is variable. The reasons for this undermanagement of risk factors is multifactorial and sociodemographic factors, such as marital status, could play an important role. This is especially important in light of recent evidence of higher mortality rates in single patients following acute coronary syndrome. However, more research is required into the impact of marital status on mortality in patients with cardiovascular risk factors.

Objectives We aimed to investigate the impact of marital status on mortality of a large database of patients admitted with hypertension, hyperlipidaemia and type 2 diabetes.

Methods Anonymous information on patients with hypertension, hyperlipidaemia and type 2 diabetes was obtained from hospitals in North England between 1st January 2000 and 31st March 2013. This data was analysed according to the ACALM (Algorithm for Comorbidities, Associations, Length of stay and Mortality) study protocol. ICD-10 and OPCS-4 codes were used to trace patients and demographics including marital status, comorbidities and mortality data. Mortality of patients of different marital statuses were compared by cox regression adjusted for age, gender, ethnicity and the top 10 contributors to mortality in the UK. P values < 0.05 were taken as statistically significant.

Results Amongst 9 29 552 adult patients admitted during the study period there were 1 68 431 patients with hypertension, 53 055 with hyperlipidaemia and 68 098 patients with type 2 diabetes. Crude mortality was highest among widowed patients in all 3 conditions. Logistic regression accounting for age, gender, ethnicity and the top contributors to mortality in the UK showed that married people, as compared to single people,

Marital Status	Type 2 diabetes			Hypertension			Hyperlipidaemia		
	Prevalence N (%)	Crude mortality N (%)	Odds ratio for mortality (95% CI)	Prevalence N (%)	Crude mortality N (%)	Odds ratio for mortality (95% CI)	Prevalence N (%)	Crude mortality N (%)	Odds ratio for mortality (95% CI)
Single	8 411 (12.4%)	1 977 (23.5%)	-	18 562 (11.0%)	3 622 (19.5%)	-	5 530 (10.4%)	658 (11.9%)	-
Married	33 742 (49.5%)	8 878 (26.3%)	0.860 (0.819-0.903)***	81 075 (48.1%)	17 413 (21.5%)	0.900 (0.868-0.933)***	27 740 (52.3%)	3 497 (12.6%)	0.836 (0.769-0.909)***
Divorced	3 642 (5.3%)	941 (25.8%)	0.943 (0.906-0.981)**	9 087 (5.4%)	1 855 (20.4%)	0.981 (0.953-1.009)	2 998 (5.7%)	390 (13.0%)	0.956 (0.897-1.019)
Widowed	11 207 (16.5%)	5 296 (47.3%)	0.965 (0.947-0.985)***	31 067 (18.4%)	12 867 (41.4%)	0.973 (0.960-0.987)***	6 628 (12.5%)	1 720 (26.0%)	0.966 (0.933-1.000)
Common Law Living	12 (0.0%)	2 (16.7%)	1.138 (0.804-1.611)	38 (0.0%)	1 (2.6%)	0.695 (0.426-1.135)	11 (0.0%)	0 (0.0%)	No Deaths
Unmarried	9 680 (14.2%)	3 475 (35.9%)	1.046 (1.034-1.059)***	25 597 (15.2%)	7 312 (28.6%)	1.034 (1.025-1.042)***	9 309 (17.5%)	1 143 (12.3%)	0.990 (0.970-1.011)
Separated	866 (1.3%)	192 (22.2%)	0.974 (0.950-0.999)*	2015 (1.2%)	367 (18.2%)	0.994 (0.976-1.012)	712 (1.3%)	76 (10.7%)	0.969 (0.931-1.008)
Unknown	538 (0.8%)	0 (0.0%)	No Deaths	990 (0.6%)	2 (0.2%)	0.418 (0.343-0.510)***	127 (0.2%)	0 (0.0%)	No Deaths

Abstract 93 Table 1