Cardiovascular disease (clinical) NBPDS

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Identifying and definitional attributes

Metadata item type:	Data Set Specification
METEOR identifier:	470731
Registration status:	Health!, Superseded 17/10/2018
DSS type:	Data Set Specification (DSS)
Scope:	The collection of cardiovascular data (CV-Data) in this data set is voluntary.

The definitions used in CV-Data are designed to underpin the data collected by health professionals in their day-to-day practice. They relate to the realities of a clinical consultation and the ongoing nature of care and relationships that are formed between doctors and patients in clinical practice.

The data elements specified in this data set provide a framework for:

- promoting the delivery of high quality cardiovascular disease preventive and management care to patients,
- facilitating ongoing improvement in the quality of cardiovascular and chronic disease care predominantly in primary care and other community settings in Australia, and
- supporting general practice and other primary care services as they develop information systems to complement the above.

This is particularly important as general practice is the setting in which chronic disease prevention and management predominantly takes place. Having a nationally recognised set of definitions in relation to defining a patient's cardiovascular behavioural, social and biological risk factors, and their prevention and management status for use in these clinical settings, is a prerequisite to achieving these aims.

Many of the data elements in this data set are also used in the collection of diabetes clinical information.

Where appropriate, it may be useful if the data definitions in this metadata set were used to address data definition needs for use in non-clinical environments such as public health surveys etc. This could allow for qualitative comparisons between data collected in, and aggregated from clinical settings (i.e. using application of CV-Data), with that collected through other means (e.g. public health surveys).

Collection and usage attributes

Collection methods:	This data set is primarily concerned with the clinical use of CV-data. It could also be used by a wider range of health and health related establishments that create, use or maintain records on health care clients.

Relational attributes

Related metadata references:	Supersedes Cardiovascular disease (clinical) DSS Health!, Superseded 01/09/2012
	Has been superseded by Cardiovascular disease (clinical) NBPDS Health!, Standard 17/10/2018

Metadata items in this Data Set Specification

Seq No.	Metadata item	Obligation	Max occurs

Seq No.	Metadata item	Obligation	Max occurs
-	[Address—Australian postcode, Australian postcode code (Postcode datafile) {NNNN}](#)	Mandatory	1

DSS specific information:

To be reported for the address of the patient.

The postcode can also be used in association with the Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA) index (Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA), Australia (CD-ROM)) to derive socio-economic disadvantage, which is associated with cardiovascular risk.

People from lower socio-economic groups are more likely to die from cardiovascular disease than those from higher socio-economic groups. In 1997, people aged 25 - 64 living in the most disadvantaged group of the population died from cardiovascular disease at around twice the rate of those living in the least disadvantaged group (Australian Institute of Health and Welfare (AIHW) 2001. Heart, stroke and vascular diseases- Australian facts 2001.).

This difference in death rates has existed since at least the 1970s.

Seq No.	Metadata item	Obligation	Max occurs
-	[Division of general practice—organisation identifier, NNN](#)	Mandatory	1

-	[Episode of care—behaviour-related risk factor intervention purpose, code N](#)	Mandatory	5

DSS specific information:

Behaviour-related risk factors include tobacco smoking, nutrition patterns that are high in saturated fats and excessive energy (calories /kilojoules) (National Heart Foundation of Australia - A review of the relationship between dietary fat and cardiovascular disease, AJND, 1999. 56 (Supp) S5-S22), alcohol misuse and physical inactivity.

The importance of behaviour-related risk factors in health has become increasingly relevant in recent times because chronic diseases have emerged as the principal threat to the health of Australians. Most of the chronic diseases have their roots in these risk-taking behaviours (Chronic Diseases and associated risk factors in Australians, 2001; AIHW 2002 Canberra).

Smoking, Nutrition, Alcohol, Physical Activity (SNAP) initiative:

SNAP Framework for General Practice is an initiative of the Joint Advisory Group (JAG) on General Practice and Population Health.

The lifestyle-related behavioural risk factors of smoking, poor nutrition (and associated overweight and obesity) and harmful and hazardous alcohol use and declining levels of physical activity have been identified as significant contributors to the burden of disease in Australia, and particularly towards the National Health Priority Areas (NHPAs) of diabetes, cardiovascular disease, some cancers, injury, mental health and asthma. The NHPAs represent about 70% of the burden of illness and injury in Australia. Substantial health gains could occur by public health interventions that address these contributory factors.

Around 86% of the Australian population attends a general practice at least once a year. There is therefore substantial opportunity for general practitioners to observe and influence the lifestyle risk behaviours of their patients. Many general practitioners already undertake risk factor management with their patients. There are also a number of initiatives within general practices, Divisions of General Practice, state/territory and Commonwealth Governments and peak non-government organisations aimed at reducing disease related to these four behavioural risk factors. Within the health system, there is potential for greater collaboration and integration of approaches for influencing risk factor behaviour based on system-wide roll-out of evidence-based best practice interventions.

The aim of the SNAP initiative is to reduce the health and socioeconomic impact of smoking, poor nutrition, harmful and hazardous alcohol use and physical inactivity on patients and the community through a systematic approach to behavioural interventions in primary care. This will provide an opportunity to make better use of evidence-based interventions and to ensure adoption of best practice initiatives widely through
general practice.

-	[Episode of care—behaviour-related risk factor intervention, code NN](#)	Mandatory	8
-	[Health service event—fasting indicator, code N](#)	Mandatory	1
-	[Health service event—referral to rehabilitation service date, DDMMYYYY](#)	Conditional	1
-	[Patient—diagnosis date, DDMMYYYY](#)	Mandatory	1

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—alcohol consumption amount (self-reported), total standard drinks NN](#)	Mandatory	1

DSS specific information:

These data are used to help determine the overall health profile of an individual. Certain patterns of alcohol consumption can be associated with a range of social and health problems. These problems include:

- social problems such as domestic violence, unsafe sex,
- financial and relationship problems,
- physical conditions such as high blood pressure, gastrointestinal problems, pancreatitis,
- an increased risk of physical injury.
- Alcohol can also be a contributor to acute health problems.

Evidence from prospective studies indicates that heavy alcohol consumption is associated with increased mortality and morbidity from coronary heart disease and stroke (Hanna et al. 1992). However, there is some evidence to suggest that alcohol appears to provide some protection against heart disease (both illness and death) for both men and women from middle age onwards. Most if not all of this benefit is achieved with 1-2 standard drinks per day for men and less than 1 standard drink for women (the National Health and Medical Research Council's Australian Alcohol Guidelines, October 2001).

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—alcohol consumption frequency (self-reported), code NN](#)	Mandatory	1

DSS specific information:

These data can be used to help determine the overall health profile of an individual or of a population. Certain patterns of alcohol consumption can be associated with a range of social and health problems. These problems include:

- social problems such as domestic violence, unsafe sex,
- financial and relationship problems,
- physical conditions such as high blood pressure, gastrointestinal problems, pancreatitis,
- an increased risk of physical injury.

Alcohol can also be a contributor to acute health problems.

Evidence from prospective studies indicates that heavy alcohol consumption is associated with increased mortality and morbidity from coronary heart disease and stroke (Hanna et al 1992). However, there is some evidence to suggest that alcohol appears to provide some protection against heart disease (both illness and death) for both men and women from middle age onwards. Most, if not all, of this benefit is achieved with 1-2 standard drinks per day for men and less than 1 standard drink for women (the National Health and Medical Research Council's Australian Alcohol Guidelines, October 2001).

Where this information is collected by survey and the sample permits, population estimates should be presented by sex and 5-year age groups. Summary statistics may need to be adjusted for age and other relevant variables. It is recommended that, in surveys of alcohol consumption, data on age, sex, and other socio-demographic variables also be collected where it is possible and desirable to do so. It is also recommended that, when alcohol consumption is investigated in relation to health, data on other risk factors including overweight and obesity, smoking, high blood pressure and physical inactivity should be collected. The Australian Alcohol Guidelines: Health Risk and Benefits endorsed by the National Health and Medical Research Council in October 2001 have defined risk of harm in the short term and long term based on patterns of drinking.

The table below outlines those patterns.

Alcohol consumption shown in the tables is not recommended for people who: -

- are on medication,
- are under 18 years of age,
- are pregnant,
- are about to engage in activities involving risk or a degree of skill (e.g. driving, flying, water sports, skiing, operating machinery).

Risk of harm in the short-term			
	Low risk (standard drinks)	Risky (standard drinks)	High risk (standard drinks)
Males (on a single occasion)	Up to 6	7 to 10	11 or more
Females (on a single occasion)	Up to 4	5 to 6	7 or more

Source: *NH&MRC Australian Alcohol Guidelines: Health Risk and Benefits 2001.*

Risk of harm in the long-term			
	Low risk (standard drinks)	*Risky* (standard drinks)	*High risk* (standard drinks)
Males (on an average day)	*Up to 4*	*5 to 6*	*7 or more*
Overall weekly level	*Up to 28 Per week*	*29 to 42 Per week*	*43 or more Per week*
Females (on an average day)	*Up to 2*	*3 to 4*	*5 or more*
Overall weekly level	*Up to 14 Per week*	*15 to 28 Per week*	*29 or more Per week*

Source: NH&MRC Australian Alcohol Guidelines: Health Risk and Benefits 2001.

| | Person—blood pressure (diastolic) (measured), millimetres of mercury NN[N] | Mandatory | 1 |

DSS specific information:

In the primary care setting, blood pressure on both arms should be measured at the first visit, particularly if there is evidence of peripheral vascular disease.

Variation of up to 5 mm Hg in blood pressure between arms can be acceptable. In certain conditions (e.g. chronic aortic dissection, subclavian artery stenosis) all blood pressure recordings should be taken from the arm with the highest reading.

Measure sitting and standing blood pressures in elderly and diabetic patients or in other situations in which orthostatic hypotension might be suspected.

Measure and record heart rate and rhythm. Note: Atrial fibrillation in a patient with hypertension indicates increased risk of stroke.

In all patients, consideration should be given to obtaining blood pressure measurements outside the clinic setting either by self-measurement of blood pressure at home or by non-invasive ambulatory blood pressure monitoring.

Target-organ damage and cardiovascular outcome relate more closely to blood pressures measured outside the clinic, particularly with ambulatory monitoring. An accurate, reliable machine and technique are essential if home blood pressure monitoring is to be used. In up to 30% of patients who are hypertensive in the clinic, blood pressure outside the clinic is within acceptable limits ('white coat' hypertension).

High blood pressure is a major risk factor for coronary heart disease, heart failure, stroke, and renal failure with the risk increasing along with the level of blood pressure (Ashwell 1997; DHSH 1994b; Whelton 1994; Kannel 1991). The higher the blood pressure, the higher the risk of both stroke and coronary heart disease. The dividing line between normotension and hypertension is arbitrary. Both systolic and diastolic blood pressures are predictors of heart, stroke and vascular disease at all ages (Kannel 1991), although diastolic blood pressure is a weaker predictor of death due to coronary heart disease (Neaton & Wentworth 1992).

The risk of disease increases as the level of blood pressure increases. When blood pressure is lowered by 4-6 mm Hg over two to three years, it is estimated that the risk reduces by14 per cent in patients with coronary heart disease and by 42 per cent in stroke patients (Collins et al 1990; Rose 1992.) When high blood pressure is controlled by medication, the risk of cardiovascular disease is reduced, but not to the levels of unaffected people.

In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the service contact date should be recorded.

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—blood pressure (systolic) (measured), millimetres of mercury NN[N]](#)	Mandatory	1

DSS specific information:

In the primary care setting, blood pressure on both arms should be measured at the first visit, particularly if there is evidence of peripheral vascular disease.

Variation of up to 5 mm Hg in blood pressure between arms can be acceptable. In certain conditions (e.g. chronic aortic dissection, subclavian artery stenosis) all blood pressure recordings should be taken from the arm with the highest reading.

Measure sitting and standing blood pressures in elderly and diabetic patients or in other situations in which orthostatic hypotension might be suspected.

Measure and record heart rate and rhythm. Note: Atrial fibrillation in a patient with hypertension indicates increased risk of stroke.

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In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the service contact date should be recorded.

-	[Person—cardiovascular disease condition targeted by drug therapy, code NN](#)	Mandatory	1

	Metadata item	Obligation	Max occurs
-	[Person—cholesterol level (measured), total millimoles per litre N[N].N](#)	Mandatory	1

DSS specific information:

Scientific studies have shown a continuous relationship between lipid levels and coronary heart disease and overwhelming evidence that lipid lowering interventions reduce coronary heart disease progression, morbidity and mortality. Studies show a positive relationship between an individual's total blood cholesterol level and risk of coronary heart disease as well as death (Kannel & Gordon 1970; Pocock et al. 1989).

Many studies have demonstrated the significance of blood cholesterol components as risk factors for heart, stroke and vascular disease.

Several generalisations can be made from these cholesterol lowering trials:

- that the results of the intervention trials are consistent with the prospective population studies in which (excluding possible regression dilution bias) a 1.0 mmol/L reduction in plasma total cholesterol translates into an approximate 20% reduction in the risk of future coronary events.
- It should be emphasised, however, that this conclusion does not necessarily apply beyond the range of cholesterol levels which have been tested in these studies.
- That the benefits of cholesterol lowering are apparent in people with and without coronary artery disease.

There is high level evidence that in patients with existing coronary heart disease, lipid intervention therapy reduces the risk of subsequent stroke

	Metadata item	Obligation	Max occurs
-	[Person—country of birth, code (SACC 2011) NNNN](#)	Mandatory	1
-	[Person—creatinine serum level, total micromoles per litre NN[NN]](#)	Mandatory	1

DSS specific information:

In settings where the monitoring of a person's health is ongoing and where a measure can change over time (such as general practice), the Service contact—service contact date, DDMMYYYY should be recorded.

Record absolute result of the most recent serum creatinine measurement in the last 12 months to the nearest µmol/L (micromoles per litre).

	Metadata item	Obligation	Max occurs
-	[Person—date of birth, DDMMYYYY](#)	Mandatory	1

Seq No.	Metadata item	Obligation	Max occurs
-	Person—diabetes mellitus status, code NN	Mandatory	1

DSS specific information:

People with diabetes have two to five times increased risk of developing heart, stroke and vascular disease (Zimmet & Alberti 1997). Cardiovascular disease is the most common cause of death in people with diabetes.

Diabetes is also an important cause of stroke, and people with diabetes may have a worse prognosis after stroke.

Heart, stroke and vascular disease and diabetes share common risk factors, but also diabetes is an independent risk factor for heart, stroke and vascular disease.

During the 1995 National Health Survey, about 15 per cent of those with diabetes reported having heart disease, at almost six times the rate noted among people without diabetes. In 1996-97, almost one in six hospital separations, with coronary heart disease as any listed diagnosis, also had diabetes recorded as an associated diagnosis. Heart disease appears earlier in life and is more often fatal among those with diabetes.

Diabetes may accentuate the role of elevated blood pressure in stroke. The incidence and prevalence of peripheral vascular disease in those with diabetes increase with the duration of the peripheral vascular disease.

Mortality is increased among patients with peripheral vascular disease and diabetes, in particular if foot ulcerations, infection or gangrene occur. There is limited information on whether the presence of heart, stroke and vascular disease promotes diabetes in some way.

High blood pressure, high cholesterol and obesity are often present along with diabetes. As well as all being independent cardiovascular risk factors, when they are in combination with glucose intolerance (a feature of diabetes) and other risk factors such as physical inactivity and smoking, these factors present a greater risk for heart, stroke and vascular disease.

Evidence is accumulating that high cholesterol and glucose intolerance, which often occur together, may have a common aetiological factor. Despite these similarities, trends in cardiovascular mortality and diabetes incidence and mortality are moving in opposite directions.

While the ageing of the population following reductions in cardiovascular mortality may have contributed to these contrasting trends, the role of other factors also needs to be clearly understood if common risk factor prevention strategies are to be considered. (From Commonwealth Department of Health & Aged Care and Australian Institute of Health and Welfare (1999) National Health Priority Areas Report: Cardiovascular Health).

In settings such as general practice where the monitoring of a person's health is ongoing and where diabetes status can change over time, the service contact date should be recorded.

Seq No.	Metadata item	Obligation	Max occurs
-	Person—diabetes therapy type, code NN	Mandatory	1
-	Person—formal community support access indicator (current), code N	Mandatory	1
-	Person—height (measured), total centimetres NN[N].N	Mandatory	1

-	[Person—high-density lipoprotein cholesterol level (measured), total millimoles per litre [N].NN](#)	Mandatory	1

DSS specific information:

High-density Lipoprotein Cholesterol (HDL-C) is easily measured and has been shown to be a negative predictor of future coronary events.

An inverse relationship between the level of HDL-C and the risk of developing premature coronary heart disease (CHD) has been a consistent finding in a large number of prospective population studies. In many of these studies, the level of HDL-C has been the single most powerful predictor of future coronary events. Key studies of the relationship between HDLs and CHD include the Framingham Heart Study (Castelli et al. 1986), the PROCAM Study (Assman et al 1998), the Helsinki Heart Study (Manninen et al. 1992) and the MRFIT study (Stamler et al. 1986; Neaton et al 1992).

There are several well-documented functions of HDLs that may explain the ability of these lipoproteins to protect against arteriosclerosis (Barter and Rye 1996). The best recognised of these is the cholesterol efflux from cells promoted by HDLs in a process that may minimise the accumulation of foam cells in the artery wall. The major proteins of HDLs and also other proteins (e.g. paraoxonase) that co-transport with HDLs in plasma have anti-oxidant properties. Thus, HDLs have the ability to inhibit the oxidative modification of LDLs and may therefore reduce the atherogenicity of these lipoproteins.

Overall, it has been concluded from the prospective population studies that for every 0.025 mmol/L increase in HDL-C, the coronary risk is reduced by 2-5%. For a review of the relationship between HDL-C and CHD, see Barter and Rye (1996). A level below 1.0 mmol/L increases risk approximately 2-fold (Gordon et al. 1989; Assmann et al. 1998). (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88.

In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the Service contact date should be recorded.

-	[Person—Indigenous status, code N](#)	Mandatory	1
-	[Person—informal carer existence indicator, code N](#)	Mandatory	1

DSS specific information:

Informal carers are now present in 1 in 20 households in Australia (Schofield HL. Herrman HE, Bloch S, Howe A and Singh B. ANZ J PubH. 1997) and are acknowledged as having a very important role in the care of stroke survivors (Stroke Australia Task Force. National Stroke Strategy. NSF; 1997) and in those with end-stage renal disease.

Absence of a carer may also preclude certain treatment approaches (for example, home dialysis for end-stage renal disease). Social isolation has also been shown to have a negative impact on prognosis in males with known coronary artery disease with several studies suggesting increased mortality rates in those living alone or with no confidant.

-	[Person—labour force status, code N](#)	Mandatory	1
-	[Person—living arrangement, health sector code N](#)	Mandatory	1

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—low-density lipoprotein cholesterol level (calculated), total millimoles per litre N[N].N](#)	Mandatory	1

DSS specific information:

Many studies have demonstrated the significance of blood cholesterol components as risk factors for heart, stroke and vascular disease.

Scientific studies have shown a continuous relationship between lipid levels and Coronary Heart Disease (CHD) and overwhelming evidence that lipid lowering interventions reduces CHD progression, morbidity and mortality.

There are many large-scale, prospective population studies defining the relationship between plasma total (and Low-density Lipoprotein (LDL)) cholesterol and the future risk of developing CHD. The results of prospective population studies are consistent and support several general conclusions:

- the majority of people with CHD do not have markedly elevated levels of plasma total cholesterol or LDL-C,
- there is a continuous positive but curvilinear relationship between the concentration of plasma total (and LDL) cholesterol and the risk of having a coronary event and of dying from CHD,
- there is no evidence that a low level of plasma (or LDL) cholesterol predisposes to an increase in non-coronary mortality.

The excess non-coronary mortality at low cholesterol levels in the Honolulu Heart Study (Yano et al. 1983; Stemmermann et al. 1991) was apparent only in people who smoked and is consistent with a view that smokers may have occult smoking related disease that is responsible for both an increased mortality and a low plasma cholesterol.

It should be emphasised that the prospective studies demonstrate an association between plasma total cholesterol and LDL-C and the risk of developing CHD. (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88 and Commonwealth Department of Health & Ageing and Australian Institute of Health and Welfare (1999) National Health Priority Areas Report: Cardiovascular Health 1998. AIHW Cat. No. PHE 9. HEALTH and AIHW, Canberra pgs 14-17).

In settings such as general practice where the monitoring of a person's health is ongoing and where a measure can change over time, the service contact date should be recorded.

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—number of cigarettes smoked (per day), total N[N]](#)	Mandatory	1

DSS specific information:

The number of cigarettes smoked is an important measure of the magnitude of the tobacco problem for an individual. Research shows that of Australians who smoke, the overwhelming majority smoke cigarettes (manufactured or roll-your-own) rather than other tobacco products. From a public health point of view, consumption level is relevant only for regular smokers (those who smoke daily or at least weekly).

Data on quantity smoked can be used to:

- evaluate health promotion and disease prevention programs (assessment of interventions)
- monitor health risk factors and progress towards National Health Goals and Targets
- ascertain determinants and consequences of smoking
- assess a person's exposure to tobacco smoke.

Seq No.	Metadata item	Obligation	Max occurs
-	[Person—person identifier, XXXXXX[X(14)]](#)	Mandatory	1

Seq No.	Metadata item	Obligation	Max occurs
-	Person—physical activity sufficiency status, code N	Mandatory	1
-	Person—preferred language, code (ASCL 2011) NN{NN}	Mandatory	1
-	Person—premature cardiovascular disease family history status, code N	Mandatory	1

DSS specific information:

Having a family history of cardiovascular disease (CVD) is a risk factor for CVD and the risk increases if the event in the family member occurs at a young age. For vascular risk assessment a premature family history is considered to be present where a first-degree relative under age 60 years (woman or man) has had a vascular event/condition diagnosed. The evidence of family history being a strong risk factor for stroke only applies to certain limited stroke subtypes in certain populations.

-	Person—proteinuria status, code N{.N}	Mandatory	1
-	Person—renal disease therapy, code N	Mandatory	1

DSS specific information:

Nephrotoxic agents (including radiocontrast) should be avoided where possible. Drugs that impair auto-regulation of glomerular filtration rate (GFR) (NSAIDs, COX-2, ACEI, ATRA) should be used with caution in renal impairment, particularly when patients are acutely unwell for other reasons (sepsis, peri-operative etc).

Although combination ACEI and diuretic can be a very potent and efficacious means of reducing blood pressure (and thereby slowing progression), either drug should be introduced individually and carefully in a patient with underlying renal impairment. At the very least, diuretic therapy should be held or reduced when commencing an ACEI in a patient with renal impairment. Combination therapy with ACEI, diuretics and NSAIDs or COX-2 may be particularly harmful.

Drugs, which are primarily excreted by the kidney (e.g. metformin, sotalol, cisapride, etc.) need to be used with caution in patients with renal impairment. The calculated GFR needs to be determined and the dose reduced or the drug avoided as appropriate.

-	Person—sex, code N	Mandatory	1
-	Person—tobacco smoking status, code N	Mandatory	1

	Metadata item	Obligation	Max occurs
-	[Person—triglyceride level (measured), total millimoles per litre N[N].N](#)	Mandatory	1

DSS specific information:

A relationship between triglyceride and High-density Lipoprotein Cholesterol (HDL-C) and chronic heart disease (CHD) event rates has been shown. This view is supported by the observation that the remnants of triglyceride-rich lipoproteins are the particles that occur in dysbetalipoproteinaemia, a condition associated with a very high risk of premature atherosclerotic vascular disease. There have been two comprehensive reviews of the relationship between plasma triglyceride and CHD (see Criqui et al. 1993 and Austin et al. 1991). Criqui concludes that triglyceride is not an independent predictor of CHD and is probably not causally related to the disease, while Austin provides a compelling case for a causal role of (at least) some triglyceride rich lipoproteins. Conclusions drawn from population studies of the relationship between plasma triglyceride and the risk of CHD include the following:

- an elevated concentration of plasma triglyceride (> 2.0 mmol/L) is predictive of CHD when associated with either an increased concentration of LDL-C or a decreased concentration of HDL-C.
- the relationship between CHD risk and plasma triglyceride is not continuous, with evidence that the risk is greatest in people with triglyceride levels between 2 and 6 mmol/L (Lipid Management Guidelines - 2001, MJA 2001; 175: S57-S88. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand).

It is likely that the positive relationship between plasma triglyceride and CHD, as observed in many population studies, is because an elevated level of plasma triglyceride in some people is a reflection of an accumulation of the atherogenic remnants of chylomicrons and very Low-density Lipoprotein (LDL). These particles are rich in both triglyceride and cholesterol and appear to be at least as atherogenic as LDL.

	Metadata item	Obligation	Max occurs
-	[Person—vascular condition status (history), code NN](#)	Mandatory	1
-	[Person—vascular procedures (history), code NN](#)	Mandatory	1
-	[Person—waist circumference (measured), total centimetres NN[N].N](#)	Mandatory	1
-	[Person—weight (measured), total kilograms N[NN].N](#)	Mandatory	1
-	[Service contact—service contact date, DDMMYYYY](#)	Mandatory	1