Person—blood pressure (systolic) (measured), millimetres of mercury NN[N]

Exported from METEOR (AIHW's Metadata Online Registry)

Person—blood pressure (systolic) (measured), millimetres of mercury NN[N]

Identifying and definitional attributes

Metadata item type:	Data Element
Short name:	Blood pressure—systolic (measured)
METEOR identifier:	270073
Registration status:	Health, Standard 01/03/2005
Definition:	The person's systolic **blood pressure,** measured in millimetres of mercury (mmHg).
Data Element Concept:	Person—blood pressure (systolic)
Value Domain:	Millimetres of mercury NN[N]

Value domain attributes

Representational attributes

Representation class:	Total	
Data type:	Number	
Format:	NN[N]	
Maximum character length:	3	
	Value	**Meaning**
Supplementary values:	999	Not stated/inadequately described
Unit of measure:	Millimetre of mercury (mmHg)	

Data element attributes

Collection and usage attributes

Guide for use:	For recording the systolic reading, use phase I Korotkoff (the first appearance of sound). If Blood pressure - systolic is not collected or not able to be collected, code 999.

Collection methods: Measurement protocol for resting blood pressure:

The systolic blood pressure is one component of a routine blood pressure measurement (i.e. systolic/diastolic) and reflects the maximum pressure to which the arteries are exposed.

- The patient should be relaxed and seated, preferably for several minutes, (at least 5 minutes). Ideally, patients should not take caffeine-containing beverages or smoke for two hours before blood pressure is measured.
- Ideally, patients should not exercise within half an hour of the measurement being taken (National Nutrition Survey User's Guide).
- Use a mercury sphygmomanometer. All other sphygmomanometers should be calibrated regularly against mercury sphygmomanometers to ensure accuracy.
- Bladder length should be at least 80%, and width at least 40% of the circumference of the mid-upper arm. If the Velcro on the cuff is not totally attached, the cuff is probably too small.
- Wrap cuff snugly around upper arm, with the centre of the bladder of the cuff positioned over the brachial artery and the lower border of the cuff about 2 cm above the bend of the elbow.
- Ensure cuff is at heart level, whatever the position of the patient.
- Palpate the radial pulse of the arm in which the blood pressure is being measured.
- Inflate cuff to the pressure at which the radial pulse disappears and note this value. Deflate cuff, wait 30 seconds, and then inflate cuff to 30 mm Hg above the pressure at which the radial pulse disappeared.
- Deflate the cuff at a rate of 2-3 mm Hg/beat (2-3 mm Hg/sec) or less.
- For recording the systolic reading, use phase I Korotkoff (the first appearance of sound). Wait 30 seconds before repeating the procedure in the same arm. Average the readings. If the first two readings differ by more than 6 mm Hg systolic or if initial readings are high, take several readings after five minutes of quiet rest.

Comments: The pressure head is the height difference a pressure can raise a fluid's equilibrium level above the surface subjected to pressure. (Blood pressure is usually measured as a head of Mercury, and this is the unit of measure nominated for this metadata item.)

The current (2002) definition of hypertension is based on the level of blood pressure above which treatment is recommended, and this depends on the presence of other risk factors, e.g. age, diabetes etc. (NHF 1999 Guide to Management of Hypertension).

Source and reference attributes

Submitting organisation: Cardiovascular Data Working Group

National Diabetes Data Working Group

Origin: The National Heart Foundation Blood Pressure Advisory Committee's 'Guidelines for the Management of Hypertension - 1999' which are largely based on World Health Organization Recommendations. (Guidelines Subcommittee of the WHO-SH: 1999 WHO-ISH guidelines for management of hypertension. J Hypertension 1999; 17:151-83).

Australian Bureau of Statistics 1998. National Nutrition Survey User's Guide 1995. Cat. No. 4801.0. Canberra: ABS. (p. 20).

National Diabetes Outcomes Quality Review Initiative (NDOQRIN) data dictionary.

Reference documents:

'Guidelines for the Management of Hypertension - 1999' largely based on World Health Organization Recommendations. (Guidelines Subcommittee of the WHO) J Hypertension 1999; 17: 151-83.).

Diabetes Control and Complications Trial: DCCT New England Journal of Medicine, 329(14), September 30, 1993.

UKPDS 38 Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UK Prospective Diabetes Study Group. British Medical Journal (1998); 317: 703-713.

Relational attributes

Related metadata references:

Is re-engineered from Blood pressure - systolic measured, version 1, DE, NHDD, NHIMG, Superseded 01/03/2005 .pdf (25.9 KB)
No registration status

Implementation in Data Set Specifications:

Acute coronary syndrome (clinical) DSS
Health, Superseded 07/12/2005

Acute coronary syndrome (clinical) DSS
Health, Superseded 01/10/2008

Cardiovascular disease (clinical) DSS
Health, Superseded 15/02/2006

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.

Cardiovascular disease (clinical) DSS
Health, Superseded 04/07/2007
DSS specific information:

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Cardiovascular disease (clinical) DSS
Health, Superseded 22/12/2009
DSS specific information:

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Cardiovascular disease (clinical) DSS
Health, Superseded 01/09/2012

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Cardiovascular disease (clinical) NBPDS
Health, Superseded 17/10/2018
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.

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Cardiovascular disease (clinical) NBPDS
Health, Standard 17/10/2018
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Diabetes (clinical) DSS
Health, Superseded 21/09/2005
DSS specific information:

The United Kingdom Prospective Diabetes Study (1987 to 1998) showed major benefit from lowering blood pressure in preventing diabetes complications.

A target for blood pressure for people who suffer from diabetes is 130/85 mm Hg or less; recommended by the Australian Diabetes Society (if proteinuria is detected it is less than 125/75 mm Hg) Australian Medicines Handbook: last modified February, 2001).

Following the NSW Principles of Care and Guidelines for the Clinical Management of Diabetes Mellitus for patients who suffer from hypertension, if pharmacological intervention is required, ACE inhibitors are the preferred agents for treating hypertension in people with diabetes (unless contraindicated).

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Health, Standard 21/09/2005
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