Appendix

Appendix S1. The complete list of CNSR-III members and sites.

Beijing Tiantan Hospital Capital Medical University, Beijing, China: Yongjun Wang, MD; Aerospace Central Hospital, Beijing, China: Jilai Li, MD; Beijing Qinghua Changgeng Hospital, Beijing, China: Jian Wu, MD; Beijing Longfu Hospital, Beijing, China: Mei Zhang, MD; Beijing Shijitan Hospital Capital Medical University, Beijing, China: Maolin He, MD; Beijing Hospital, Beijing, China: Tao Gong, MD; The Hospital of Shunyi District Beijing, Beijing, China: Quping Ouyang, MD; Fuxing Hospital Capital Medical University, Beijing, China: Guang Huang, MD; Beijing Haidian Hospital, Beijing, China: Fengchun Yu, MD; Civil Aviation General Hospital, Beijing, China: Chenlong Wang, MD; Chinese People's Liberation Army 263 Hospital, Beijing, China: Jinli Zhang, MD; Beijing Ditan Hospital Capital Medical University, Beijing, China: Wenqing Wu, MD; phD; Affiliated Hospital of the Chinese People's Armed Police Force Logistics College, Tianjin, China: Yi Wang, MD; Yaoyu Yu, MD; Tianjin People's Hospital, Tianjin, China: Meiyun Zhang, MD; Tianjin Huanhu Hospital, Tianjin, China: Zhongping An, MD; The Third Hospital of Hebei Medical University, Shijiazhuang, China: Junyan Liu, MD; Shijiazhuang First Hospital, Shijiazhuang, China: Wanying Shi, MD; Tangshan Gongren Hospital, Tangshan, China: Baoquan Lu, MD; Luannan County Hospital, Tangshan, China: Lijun Geng, MD; Kailuan General Hospital, Tangshan, China: Shujuan Wang, MD; Yutian County Hospital, Tangshan, China: Xu Zhang, MD; Zunhua People's Hospital, Tangshan, China: Ruifang Liu, MD; The NO.2 Hospital of Baoding, Baoding, China: Fengli Zhao, MD; Handan City First Hospital, Handan, China: Jie Lin, MD; Handan Central Hospital, Handan, China: Xinping Liu, MD; Wu'an First People's Hospital, Handan, China: Xuebing Sun, MD; Shexian Hospital, Handan, China: Tianyuan Li, MD; Affiliated Hospital of Hebei University of Engineering, Handan, China: Youming Wang, MD; Hengshui People's Hospital, Hengshui, China: Xinxia He, MD; Hengshui Fifth People Hospital, Hengshui, China: Weiqiang Yuan, MD; Cangzhou Hospital of Integrated TCM-WM . Hebei, Cangzhou, China: Ronghua Dou, MD; Cangzhou People's Hospital , Cangzhou, China: Lihai Liu, MD; Yanling Wang, MD; Cangzhou Central Hospital, Cangzhou, China: Junling Zhang, MD; Chengde Central Hospital, Chengde, China: Haisong Du, MD; Xingtai Third Hospital, Xingtai, China: Yuqing Wei, MD; Weixian People's Hospital, Xingtai, China: Cunrui Wang, MD; First Hospital of Zhangjiakou,

Zhangjiakou, China: Limin Wang, MD; The First Affiliated Hospital of Hebei North University, Zhangjiakou, China: Yu'an Zou, MD; Shanxi Cardiovascular Hospital, Taiyuan, China: Xiaofei Chen, MD; Shanxi Provincial People's Hospital, Taiyuan, China: Fengyun Hu, MD; Yangquan Coalmine Group General Hospital, Yangquan, China: Jinfeng Liu, MD; Changzhi People's Hospital, Changzhi, China: Lili Zhao, MD; The Second People's Hospital of Jinzhong, Jinzhong, China: Fanping He, MD; The Second Affiliated Hospital of Shandong University of Traditional Chinese Medicine, Jinan, China: Xingchen Wang, MD; Shandong Police General Hospital, Jinan, China: Qingwei Zhao, MD; Jinan Central Hospital, Jinan, China: Xiaohong Li, MD; Leling People's Hospital, Leling, China: Jun Zhao, MD; Liaocheng People's Hospital, Liaocheng, China: Zhangyong Xia, MD; Dong'a County People's Hospital, Liaocheng, China: Hongjin Li, MD; Penglai Traditional Chinese Medicine Hospital, Penglai, China: Mingzong Yan, MD; Penglai People's Hospital, Penglai, China: Guiru Zhang, MD; Yantaishan Hospital of Yantai City, Yantai, China: Hui Liang, MD; Taian City Central Hospital, Taian, China: Yunlin Liu, MD; Zhengzhou Yihe Hospital affiliated to Henan University, Zhengzhou, China: Jun Xu, MD; Zhengzhou Central Hospital, Zhengzhou, China: Runqing Wang, MD; Gongyi City People's Hospital, Gongyi, China: Yuhui Han, MD; Qixian People's Hospital, Hebi, China: Xianghong Meng, MD; Mingzhen Li, MD; Jiyuan People's Hospital, Jiyuan, China: Ting Wang, MD; Kaifeng Central Hospital, Kaifeng, China: Xinsheng Han, MD; Yucheng County People's Hospital, Luoyang, China: Hongtian Zhang, MD; Luoyang Central Hospital, Luoyang, China: Congmin Ma, MD; Pingdingshan First People's Hospital, Pingdingshan, China: Wenjun Xue, MD; Ruzhou First People's Hospital, Ruzhou, China: Chun Wang, MD; Shangqiu First People's Hospital, Shangqiu, China: Yan Fang, MD; Changge Municipal People's Hospital, Xuchang, China: Gexia Liu, MD; Dalian Central Hospital, Dalian, China: Jianfeng Wang, MD; affiliated Zhongshan Hospital of Dalian University, Dalian, China: Qiang Ma, MD; Dalian Friendship Hospital, Dalian, China: Xiaohong Li, MD; Wenxu Zheng, MD; Xinhua Hospital affiliated to Dalian University, Dalian, China: Haitao Chi, MD; The Fourth Affiliated Hospital of China Medical University, Shenyang, China: Lianbo Gao, MD; First People's Hospital of Shenyang , Shenyang, China: Jin Zhou, MD; People's Liberation Army Shenyang Military Region General Hospital, Shenyang, China: Huisheng Chen, MD; Shengjing Hospital of China Medical University, Shenyang, China: Juan Feng, MD; Anshan Central Hospital, Anshan, China: Hongbo Xiao, MD; Third People Hospital of Liaoyang , Liaoyang, China: Lijun Xiao, MD; Jilin

University First Hospital, Changchun, China: Yi Yang, MD; The First Affiliated Hospital of Harbin Medical University, Harbin, China: Guozhong Li, MD; The Second Affiliated Hospital of Harbin Medical University, Harbin, China: Yulan Zhu, MD; phD; Lihua Wang, MD; Hongqi Hospital affiliated to Mudanjiang Medical College, Mudanjiang, China: Yindong Yang, MD; Qiqihar City Rongjian Stroke Prevention and Treatment Institute, Qiqihar, China: Xuerong Qiu, MD; Daqing Oilfield General Hospital, Daqing, China: Xuhai Gong, MD; Wuhan First Hospital, Wuhan, China: Guohua Chen, MD; Hubei Third People's Hospital, Wuhan, China: Xiaoxiang Peng, MD; The Central Hospital of Enshi Autonomous Prefecture , Wuhan, China: Qunhui Liu, MD; Zhongxiang Hospital of Renmin Hospital of Wuhan University, Jingmen, China: Shiping Gong, MD; Xiangyang Central Hospital, Xiangyang, China: Hongbin Zhou, MD; Zhangzhou First People's Hospital, Chenzhou, China: Haipeng Li, MD; The First Affiliated Hospital of Nanhua University, Hengyang, China: Yong You, MD; Xiangtan Central Hospital, Xiangtan, China: Jinsheng Lin, MD; Nanjing Drum Tower Hospital, Nanjing, China: Yun Xu, MD; The Second Chinese Medicine Hospital of Jiangsu, Nanjing, China: Lei Sheng, MD; The Second Affiliated Hospital of Suzhou University, Suzhou, China: Heqing Zhao, MD; The Second Affiliated Hospital of Lianyungang, Lianyungang, China: Aixia Zhuang, MD; Affiliated Hospital of Nantong University, Nantong, China: Kaifu Ke, MD; The First Affiliated Hospital of Suzhou University, Nantong, China: Qi Fang, MD; The First People's Hospital of Nantong , Nantong, China: Zhengxie Dong, MD; The Affiliated Hospital of Xuzhou Medical College, Xuzhou, China: Guiyun Cui, MD; Deqin Geng, MD; The Second Affiliated Hospital of Xuzhou Medical College, Xuzhou, China: Liangqun Rong, MD; Yixing People's Hospital, Yixing, China: Junfeng Shi, MD; Affiliated Hospital of Jiangsu University, Zhenjiang, China: Ming Yu, MD; Subei People's Hospital of Jiangsu , Yangzhou, China: Jun Xu, MD, phD; Zhejiang Provincial People's Hospital, Hangzhou, China: Yu Geng, MD; The First Affiliated Hospital of Zhejiang University, Hangzhou, China: Benyan Luo, MD; Lishui Center Hospital, Lishui, China: Xueli Cai, MD; Shaoxing Central Hospital, Shaoxing, China: Jun Zhou, MD; Yiwu Hospital affiliated to Wenzhou Medical University, Yiwu, China: Yi Wu, MD; Zhoushan Hospital, Zhoushan, China: Weiguo Tang, MD; Taizhou First People's Hospital, Taizhou, China: Zhimin Wang, MD; The Second Affiliated Hospital of Chongqing Medical University, Chongqing, China: Yangmei Chen, MD; Third Affiliated Hospital of the Third Military Medical University of the Chinese People's Liberation Army, Chongqing, China: Yanjiang Wang, MD; Affiliated

Hospital of the Third Military Medical University, Chongqing, China: Kangning Chen, MD; Qinghai Provincial People's Hospital, Qinghai, China: Shizheng Wu, MD; Huainan Chaoyang Hospital, Huainan, China: Wenguang Bu, MD; Huangshan People's Hospital, Huangshan, China: Xiaohua Cheng, MD; The Third Affiliated Hospital of Zhongshan University, Guangzhou, China: Zhengqi Lu, MD; The First Affiliated Hospital of Jinan University, Guangzhou, China: An'ding Xu, MD; Southern Hospital of Southern Medical University, Guangzhou, China: Jia Yin, MD; The University of Hong Kong . Shenzhen Hospital, Shenzhen, China: Jifu Cai, MD; Shenzhen People's Hospital, Shenzhen, China: Yi Guo, MD; Shenzhen Hospital of Peking University, Shenzhen, China: Jun Wu, MD; The People's Hospital of Guangxi Zhuang Autonomous Region, Nanning, China: Lvli Li, MD; Wuzhou People's Hospital, Wuzhou, China: Li Pan, MD; Fujian Provincial Hospital, Fuzhou, China: Yinzhou Wang, MD; The First Affiliated Hospital of Fujian Medical University, Fuzhou, China: Ning Wang, MD; phD; The Second Hospital of Xiamen , Xiamen, China: Jianping Niu, MD; Xiamen Haicang Hospital, Xiamen, China: Qing Li, MD; The First Affiliated Hospital of Medical College, Shihezi University, Shihezi, China: Hong Wang, MD; Xinjiang Uygur Autonomous Region People's Hospital, Urumqi, China: Hongyan Li, MD; Xinjiang Production and Construction Corps Hospital, Urumqi, China: Xiaoying Zhang, MD; Kunming Yan'an Hospital, Kunming, China: Liping Zhan, MD; Wuyuan County People's Hospital, Bayannaoer, China: Yongming Chen, MD; Baotou Central Hospital, Baotou, China: Baojun Wang, MD; First Affiliated Hospital of Baotou Medical University, Baotou, China: Li'e Wu, MD; Chifeng Municipal Hospital, Chifeng, China: Li Liu, MD; Affiliated Hospital of Chifeng University, Chifeng, China: Yanru Zhao, MD; Ordos Center Hospital, Ordos, China: Yingchun Wu, MD; Inner Mongolia People's Hospital, Hohhot, China: Runxiu Zhu, MD; Ningxia Medical University General Hospital, Yinchuan, China: Yanhui Du, MD; The Third People's Hospital of Ningxia, Yinchuan, China: Yongxia Wen, MD; Xi'an Central Hospital, Xi'an, China: Ye Tian, MD; Xi'an First Hospital, Xi'an, China: Songdi Wu, MD; Yan'an University Affiliated Hospital, Yan'an, China: Yongcai Qu, MD; First People's Hospital Affiliated to Shanghai Jiaotong University, Shanghai, China: Yuncheng Wu, MD; The Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China: Jianren Liu, MD; Huashan Hospital affiliated to Fudan University, Shanghai, China: Qiang Dong, MD; Shanghai Pudong New Area People's Hospital, Shanghai, China: Qingke Bai, MD; The Sixth People's Hospital affiliated to Shanghai Jiaotong University,

Shanghai, China: Yuwu Zhao, MD; The Eighth People's Hospital of Shanghai Province , Shanghai, China: Xu Chen, MD; The Third People's Hospital of Hainan Province , Sanya, China: Chaoming He, MD; Shenzhen Second People's Hospital, Shenzhen, China: Lijie Ren, MD; Lishui People's Hospital, Lishui, China: Weiwen Qiu, MD; Sanmenxia Central Hospital, Sanmenxia, China: Shufang Yao, MD; Yantai Yuhuangding Hospital, Yantai, China: Xuwen Sun, MD; The Second Xiangya Hospital of Central South University, Changsha, China: Hainan Zhang, MD; Taiyuan Central Hospital, Taiyuan, China: Weirong Li, MD; Zhumadian Central Hospital, Zhumadian, China: Ligong Gao, MD; Qingyuan People's Hospital, Qingyuan, China: Xianglin Chen, MD; The First Hospital of Beijing Fangshan District , Beijing, China: Jianhua Li, MD; Affiliated Hospital of North China University of Technology, Tangshan, China: Qiuyan Shi, MD; Tangshan People's Hospital, Tangshan, China: Yan Wang, MD; Zhongli County People's Hospital, Zhengzhou, China: Mingzhi Zhao, MD; First Affiliated Hospital of Zhongshan University, Guangzhou, China: Jinsheng Zeng, MD; Kaifeng Second People's Hospital, Kaifeng, China: Liping Wang, MD; People's Liberation Army No. 309 Hospital, Beijing, China: Wei Wang, MD; Naval general hospital, Beijing, China: Feng Qiu, MD; Beijing Huairou Hospital of University of Chinese Academy of Sciences, Beijing, China: Zhaochen Li, MD; Affiliated Hospital of Chengde Medical College, Chengde, China: Liang Zhao, MD; Yingyang City People's Hospital, Xingyang, China: Tianbao Chen, MD; Zhoukou Central Hospital, Zhoukou, China: Lei Xia, MD; Changzi People's Hospital, Changzhi, China: SuYun Yang, MD; Qinyang City People's Hospital, Qinyang, China: Yazhou Han, MD; Lianyungang Municipal Oriental Hospital, Lianyungang, China: Liyan Liu, MD; Qingyuan County People's Hospital, Lishui, China: Xinxiao Wu, MD; Xunxian People's Hospital, Hebi, China: Beihai Jiang, MD; The People's Hospital of Hebi , Hebi, China: Lizhong Li, MD; Longquan People's Hospital, Longquan, China: Weidong Lou, MD; Hospital of Jianshui, Jianshui, China: Xiaoqian Shen, MD; Affiliated Nanhua Hospital, University of South China, Hengyang, China: Ping Zhang, MD; Jingning County People's Hospital, Lishui, China: Weiming Lan, MD; Jinzhong City First People's Hospital, Jinzhong, China: Aihu Zheng, MD; Shanxi Qixian People's Hospital, Jinzhong, China: Qifu Bai, MD; Jiangsu Jiangbei People's Hospital, Nanjing, China: Lifang Luan, MD; The Second Affiliated Hospital of Nanhua University, Hengyang, China: Lin Chen, MD; Fenxi Mining Bureau Hospital, Jinzhong, China: Liqing Yan, MD; Hejian City People's Hospita, Hejian, China: Yanxia Wang, MD; Wenzhou City Third People's Hospital ,

Wenzhou, China: Xuerong Huang, MD; Huangdao District People's Hospital, Qingdao, China: Xiangting Chai, MD; Anyang County People's Hospital, Jiyuan, China: Yanshu Liu, MD; Nanyang Second People's Hospital , Nanyang, China: Liangjun You, MD; Jiyuan City Hospital of Traditional Chinese Medicine, Jiyuan, China: Hongqin Yang, MD; The Second Affiliated Hospital of Shanxi Medical University, Taiyuan, China: Dongfang Li, MD; The Second Hospital of Hebei Medical University, Shijiazhuang, China: Huijuan Wang, MD; Hengshui City Yinzhou District Hospital, Hengshui, China: Linying Gui, MD; The No.4 People' Hospital of Hengshui, Hengshui, China: Aisheng Wu, MD; Jianling Zhang, MD; Huimin County People's Hospital, Binzhou, China: Dengling Wang, MD; The Western Hospital of Shandong Provincial Hospital, Jinan, China: Qinghua Zhang, MD; The Fifth Affiliated Hospital of Zhengzhou University, Zhengzhou, China: Yunhong He, MD; Qingdao City, Hai Ci Hospital, Qingdao, China: Ruiyou Guo, MD; the Affiliated Hospital of Qingdao University, Qingdao, China: Jijun Teng, MD; The Zhengzhou First People's Hospital , Zhengzhou, China: Ping Lou, MD.

Appendix S2. Baseline information and discharge information

Baseline Information

- ❑ Demographics (including: age, gender, education, ethnicity, marital status, occupation, occupation)
- ❑ Pre-hospital care (onset date, first aid transport mode, general situation, intravenous thrombolytic therapy, endovascular treatment)
- ❑ Past-history (smoking, alcohol consumption, hypertension, diabetes, dyslipidemia, lifestyle, cerebrovascular history, heart disease, acute infection, other diseases) /family history
- ❑ Previous medication: regular or not (anti-platelet therapy; lipid-lowering therapy; anticoagulant; antihypertensive drugs; hypoglycemic agents; others)
- ❑ Previous disability (mRS):
- ❑ Physical examination at admission
- ❑ Primary diagnosis: cerebral infarction / TIA
- ❑ Admission risk factor assessment (blood pressure: the average blood pressure within 24 hours after admission, excluding other factors)
- ❑ Admission score: mRS score; NIHSS score; ABCD2 score
- ❑ Laboratory tests: completed within 24 hours (blood / biochemical / renal function)

Discharge Information (discharge ±7 days)

- ❑ Hospital interventions for stroke:
  - ■ Auxiliary examination during hospitalization:
  - ■ Laboratory tests: blood lipids, coagulation, infectious diseases, glycosylated hemoglobin
  - ■ Standard etiological examination and evaluation:
- ❑ Cerebrovascular events during hospitalization
  - ■ The definitions of cerebrovascular events are presented in Appendix A.
- ❑ Inpatient treatment

- Medication therapy (anti-platelet / anticoagulant / lipid lowering / hypoglycemic / antihypertensive / expansion / dehydration / anti-infection): including administration time and dose
- Vascular related operations and surgical procedures (Carotid stenting/Carotid endarterectomy/ Intracranial arterial stenting/ Decompressive craniectomy)
- Other KPI: swallowing function evaluation / deep vein thrombosis / rehabilitation training

❑ Evaluation at Discharge

- The final diagnosis: cerebral infarction (SSS-TOAST subtype) or transient ischaemic attack
- Other diagnoses: hypertension; blood glucose abnormalities; lipid metabolism disorders; heart disease; respiratory diseases; liver disease; urinary system diseases; peripheral vascular disease; haemorrhage (detail information is presented in Appendix B); epilepsy.

❑ Discharge

- NIHSS score;
- mRS score;
- health guidance;
- application of secondary prevention drugs;
- evaluation of hospitalization quality of stroke.

❑ Inpatient medical burden: hospitalization time, medical expenses.

Appendix S3. Definitions of cerebrovascular events

Ischaemic stroke: An acute focal infarction of the brain or retina. Criteria: ①Acute onset of a new focal neurological deficit or worsening of an existing focal neurological deficit (NIHSS score increased by 4 points or above), lasting more than 24 hours. ② Acute onset of a new focal neurological deficit or worsening of an existing focal neurological deficit (NIHSS score increased by 4 points or above), lasting less than 24 hours, imaging confirmed (CT or MR) new infarction lesions or expansion of the original infarction. The above two conditions are required to be excluded for fever, drug effects, infection and any other etiology. Brain imaging (CT or MR) is needed for the exception of cerebral edema, bleeding and haemorrhage transformation etc.

Transient ischaemic attack: Rapid onset of a focal neurological deficit attributed to focal brain or retinal ischemia lasting less than 24 hours, without evidence of associated acute focal infarction on imaging (CT or MR).

Haemorrhagic stroke: An acute extravasation of blood into the brain parenchyma or subarachnoid space with associated neurological symptoms.

Cerebral haemorrhage: cerebral bleeding caused by parenchymal blood vessel rupture, confirmed by imaging (CT or MR). Here mainly refers to non-traumatic bleeding, including primary and secondary cerebral haemorrhage.

Subarachnoid haemorrhage: intracranial vascular rupture of blood flow into the subarachnoid space, confirmed by imaging (CT or MR), here is mainly to non-traumatic spontaneous subarachnoid haemorrhage.

Haemorrhagic transformation after cerebral infarction: any non-traumatic haemorrhage within the scope of the known ischaemic stroke infarction.

- Symptomatic: Imaging evidence of haemorrhage in the infarct region (CT or MRI); symptoms associated with haemorrhagic transformation; NIHSS score increased by 4 points or more after an ischaemic event; death.

- Non-symptomatic: imaging evidence of haemorrhage in the infarcted area (CT or MRI); no symptoms, or clinical deterioration resulting in NIHSS score increase of less than 4 points caused by haemorrhagic transformation.

Bleeding Type

- **Major bleeding**
  - Intracranial haemorrhage;
  - Pericardial bleeding (cardiac tamponade);
  - Hypotensive shock and severe low blood pressure caused by bleeding, requiring compression therapy or surgical treatment;
  - Significant clinical manifestations of haemorrhage or hb drop > 50g / l;
  - Blood transfusion ≥4 units due to bleeding (whole blood or red blood cell suspension).
- **Major bleeding-other**
  - Bleeding accompanied by significant function impairment (e.g. bleeding eyes leading to Persistent visual loss);
  - Hb fell more than 30-50g/L;
  - Transfusion 2-3 units due to bleeding (whole blood or red blood cell suspension).
- **Moderate bleeding**

Bleeding requiring medical intervention or treatment (such as epistaxis which needs tamponade therapy in hospital)

- **Minor bleeding**

Bleeding does not require intervention or treatment (such as bruising, bleeding gums, staxis at the injection site)

Appendix S4. Abbreviations and explanation of biomarkers

Biomarker	Full name	Unit	Calculation or explanation
Cre	Creatinine	μmol/L	Creatinine is a breakdown product of creatine phosphate in muscle, and is usually produced at a fairly constant rate by the body (depending on muscle mass).
CysC	Cystatin C	mg/L	Cystatin C is a 122 amino acid protein with a molecular mass of 13 kDa. Cystatin C has been thought of as produced at a constant rate by a "housekeeping" gene expressed in all nucleated cells. Cystatin C is freely filtered at the glomerulus because of its small size and basic pH.
$eGFR_{CKD\_EPI\_Cre}$	Estimate Glomerular filtration rate_CKD-EPI creatinine equation	ml/min/1.72m^2	$141 \times \min(Scr/\kappa, 1)^{\alpha} \times \max(Scr/\kappa, 1)^{-1.209} \times 0.993^{Age} \times 1.018$ [if female], where Scr is serum creatinine, κ is 0.7 for females and 0.9 for males, α is -0.329 for females and -0.411 for males, min indicates the minimum of Scr/κor 1, and max indicates the maximum of Scr/κ or 1.
$eGFR_{CKD\_EPI\_CysC}$	Estimate Glomerular filtration rate_CKD-EPI cystatin C equation	ml/min/1.72m^2	$133 \times \min(Scys/0.8, 1)^{-0.499} \times \max(Scys/0.8, 1)^{-1.328} \times 0.996^{Age} \times 0.932$ [if female], where Scys is serum cystatin C, min indicates the minimum of Scr/κ or 1, and max indicates the maximum of Scys/κ or 1.
$\_eGFR_{CKD\_EPI\_Cre\_CysC}$	Estimate Glomerular filtration rate_CKD-EPI creatinine–cystatin C equation	ml/min/1.72m^2	$135 \times \min(Scr/\kappa,1)^{\alpha} \times \max(Scr/\kappa,1)^{-0.601} \times \min(Scys/0.8,1)^{-0.375} \times \max(SCr/0.8,1)^{-0.711} \times 0.995^{Age} \times 0.969$ [if female], where Scr is serum creatinine, Scys is serum cystatin C, κ is 0.7 for females and 0.9 for males, α is −0.248 for females and −0.207 for males, min indicates the minimum of Scr/κ or 1, and max indicates the maximum of Scr/κ or 1.
ACR	Albumin-to-creatinine ratio	mg/g	Albuminuria is established by one measurement of albumin-to-creatinine ratio
NGAL_B	Plasmic neutrophil gelatinase-associated lipocalin	ng/ml	NGAL is a protein that in humans is encoded by the LCN2 gene. It is expressed in neutrophils and in low levels in the kidney, prostate, and epithelia of the respiratory and alimentary tracts.
NGAL_U	Urinary neutrophil gelatinase-associated lipocalin	ng/ml	NGAL is a protein that in humans is encoded by the LCN2 gene. It is expressed in neutrophils and in low levels in the

			kidney, prostate, and epithelia of the respiratory and alimentary tracts.
UROM	Uromodulin	μg/ml	Uromodulin, also known as Tamm–Horsfall glycoprotein, is a glycoprotein that in humans is encoded by the UMOD gene. Uromodulin is the most abundant protein excreted in ordinary urine.
tHcy	Total homocysteine	μmol/L	Total homocysteine is defined as the sum of all homocysteine species in serum, including free and protein-bound forms.
FA	Folic acid	nmmol/L	Folic acid is a form of vitamin B-9 that can dissolve in water. It is a key ingredient in the making of the nucleic acid that forms part of all genetic material.
VitB12	Vitamin B12	pg/ml	Vitamin B12, also called cobalamin, is a water-soluble vitamin that is involved in the metabolism of every cell of the human body: it is a cofactor in DNA synthesis, and in both fatty acid and amino acid metabolism.
MMA	Methylmalonic acid	μg/mg	Methylmalonic acid is a dicarboxylic acid that is a C-methylated derivative of malonate.
UA	Uric acid	μmol/L	Uric acid is a heterocyclic compound of carbon, nitrogen, oxygen, and hydrogen with the formula C5H4N4O3. It forms ions and salts known as urates and acid urates, such as ammonium acid urate. Uric acid is a product of the metabolic breakdown of purine nucleotides, and it is a normal component of urine.
Kim-1	Kidney Injury Molecule-1	ng/ml	KIM-1 is a type I cell membrane glycoprotein which contains, in its extracellular portion, a novel six-cysteine immunoglobulin-like domain, two N -glycosylation sites and a T/SP rich domain characteristic of mucin-like O -glycosylated proteins. The structure of the protein led us to initially believe it had adhesion molecule properties
AGEs	Advanced Glycation End Products	ng/ml	
sRAGE	soluble receptor for AGEs	pg/ml	
esRAGE	endogenous secreted receptor for AGEs	ng/ml	

Fib	Fbrinogen	mg/dl	Fbrinogen, the clotting factor I, is a protein synthesized by the liver with coagulation function. The plasma content is 2.0-4.0 g /L. It converts to fibrinin under the action of thrombin and makes the blood coagulates.
D-D	D-dimner	μg/ml	D-dimer comes from cross-linked fibrin clots dissolved by fibrinolytic enzymes, which mainly reflect fibrinolytic function.
IL-1β	interleukin-1β	pg/mL	IL-1β is a promoter of inflammatory response and can directly damage the vascular endothelium. It promotes the release of inflammatory factors such as TNF-α, IL-6, and initiates and maintains the inflammatory response of atherosclerosis.
IL-6	interleukin-6	pg/mL	IL-6 is mainly secreted by mononuclear macrophages and related to plaque formation and instability by promoting platelet aggregation, enhancing the expression of CRP, fibrinogen and other inflammatory factors.
IL-8	interleukin-8	pg/mL	IL-8 is a chemotactic cytokine that promotes chemokines of inflammatory cells.
TNF-α	tumor necrosis factor -α	pg/mL	TNF-α promotes the occurrence and development of atherosclerosis by mediating endothelial cell injury, inhibiting fibrinolysis, promoting blood coagulation and matrix metalloproteinase expression.
hs-CRP	Hypersensitive c-reactive protein	mg/L	hs-CRP is a sensitive indicator of inflammatory response, mainly stimulated liver synthesis by IL-6.
MCP-1	monocytechemoattractant protein-1	pg/mL	MCP-1 is a key factor in the early development of atherosclerosis and can promote plaque rupture and affect the stability of atherosclerotic plaques.
ICAM-1	Intercellular adhesion molecules 1	pg/mL	ICAM-1 mediates the rolling adhesion of inflammatory cells along vascular endothelial cells and permeates to the inner and subcutaneous, causing endothelial cell damage.
MMP-9	matrix metalloprotein-9	ng/ml	MMP-9 belongs to MMP family and has the effect of dissolving and collapsing the surface fibers of plaques, leading to plaque rupture and thrombosis
sCD40L	Soluble CD40 Ligand	pg/mL	CD40L is a kind of transmembrane glycoprotein, most of which is located inside platelet. When activated, platelets are

			transferred to the surface of blood to form sCD40L, which stimulates smooth muscle cells, vascular endothelial cells and macrophages to produce adhesion molecules and interleukin.
t-PA	Tissue-type plasminogenactivator	pg/mL	t-PA is synthesized and secreted by vascular endothelial cells and has a high affinity with fibrin, which can start the fibrinolysis system to dissolve the formed thrombus.
PAI-1	plasminogen activator inhibitor-1	ng/ml	PAI-1 is synthesized and secreted by vascular endothelial cells and specifically bound to t-PA, making it rapidly inactivated and playing an antifibrinolytic role.
vWF-A2	Von Willebrand factor A2	pg/mL	vWF is an important plasma component that plays an important role in hemostasis.
IL-1RA	interleukin-1 receptor antagonist	pg/ml	IL-1RA is an agent that binds non-productively to the cell surface interleukin-1 receptor (IL-1R), the same receptor that binds interleukin 1 (IL-1), preventing IL-1 from sending a signal to that cell.
vWF	von Willebrand factor	ng/ml	vWF is a blood glycoprotein involved in hemostasis. It is deficient or defective in von Willebrand disease and is involved in a large number of other diseases, including thrombotic thrombocytopenic purpura, Heyde's syndrome, and possibly hemolytic-uremic syndrome. Increased plasma levels in a large number of cardiovascular, neoplastic, and connective tissue diseases are presumed to arise from adverse changes to the endothelium, and may contribute to an increased risk of thrombosis
MCP-1	monocyte chemotactic protein 1	pg/ml	MCP-1 is a small cytokine that belongs to the CC chemokine family. CCL2 recruits monocytes, memory T cells, and dendritic cells to the sites of inflammation produced by either tissue injury or infection.
VCAM-1	vascular cell adhesion molecule 1	ng/ml	VCAM-1 is a protein that in humans is encoded by the VCAM1 gene. VCAM-1 functions as a cell adhesion molecule.
PCSK9	Proprotein convertase subtilisin/kexin type 9	ng/mL	Proprotein convertase subtilisin/kexin type 9 (PCSK9) is an enzyme encoded by the PCSK9 gene in humans on chromosome 1.

TMAO	Trimethylamine-N-oxide	μmol/L	TMAO is a metabolite produced from gut microbiota metabolism of dietary trimethylamine (TMA)-containing nutrients such as choline, carnitine and phosphatidylcholine.
Carnitine		μmol/L	Carnitine, a trimethylamine abundant in red meat, is metabolized by intestinal microbiota also producing TMAO.
Choline		μmol/L	Choline is a precursor of TMAO metabolized by gut flora and choline is required for VLDL synthesis in liver.
Betaine		μmol/L	Betaine is generated from choline. And it serves as a methyl donor in a reaction converting homocysteine to methionine, catalyzed by the enzyme betaine-homocysteine methyltransferase.
γ-Butyrobetaine		μmol/L	γ-butyrobetaine (γBB) is produced as an intermediary metabolite by gut microbes from carnitine
TMAVA	N,N,N-Trimethyl-5-Aminovaleric Acid	μmol/L	TMAVA is generated from TML by gut flora.
PC	Phosphocholine	μmol/L	Phosphocholine is required for VLDL synthesis.
TML	Trimethyllysine	μmol/L	TML is abundant in both plant- and animal-derived foods and serve as a dietary precursor for gut microbiota–dependent generation of TMAO in vitro.
Creatinine		μmol/L	
CEC	Cholesterol efflux capacity	%	