Online supplement 1. Characteristics of people with different hypertensive status – the Anhui cohort study, China.

	No hypertension (n=1206)		Undetected (n=912)		Untreated (n=155)		Uncontrolled (n=452)		Controlled (n=127)		
	n	%	n	%	n	%	n	%	n	%	P*
DEMOGRAPHIC FACTORS											
Age (years)											
60-64	163	13.5	140	15.4	16	10.3	37	8.2	1	0.8	<0.001
65-69	384	31.8	238	26.1	48	31.0	153	33.8	51	40.2	
70-74	311	25.8	210	23.0	43	27.7	140	31.0	41	32.3	
75-79	195	16.2	179	19.6	20	12.9	82	18.1	21	16.5	
>=80	153	12.7	145	15.9	28	18.1	40	8.8	13	10.2	
Sex											
Women	632	52.4	463	50.8	75	48.4	242	53.5	65	51.2	0.762
Men	574	47.6	449	49.2	80	51.6	210	46.5	62	48.8	
BMI (kg/m^2)											
<20	212	17.6	119	13.0	19	12.3	37	8.2	6	4.7	<0.001
20-<23	431	35.7	299	32.8	38	24.5	106	23.5	36	28.3	
23-<26	372	30.8	302	33.1	54	34.8	155	34.3	42	33.1	
>=26	191	15.8	192	21.1	44	28.4	154	34.1	43	33.9	
Waist circumference†											
Below action level 1	779	64.6	566	62.1	80	51.6	169	37.4	50	39.4	<0.001
Action Level 1 to 2	217	18.0	157	17.2	44	28.4	122	27.0	36	28.3	
Above action Level 2	210	17.4	189	20.7	31	20.0	161	35.6	41	32.3	
Smoking status											
Never-smoking	587	48.7	481	52.7	78	50.3	236	52.2	59	46.5	0.001
Ex- smoking	81	6.7	49	5.4	12	7.7	24	5.3	8	6.3	
Current- smoking	357	29.6	288	31.6	36	23.2	86	19.0	15	11.8	
Unknown‡	181	15.0	94	10.3	29	18.7	106	23.5	45	35.4	
Drinking alcohol over the 2 years											
No	964	79.9	708	77.6	127	81.9	388	85.8	108	85.0	0.005
Yes	242	20.1	204	22.4	28	18.1	64	14.2	19	15.0	
Urban/rurality											
Urban	612	50.7	330	36.2	83	53.5	338	74.8	115	90.6	<0.001
Rural	594	49.3	582	63.8	72	46.5	114	25.2	12	9.4	
SOCIOECONOMIC STATUS INDICATORS											
Educational level											
Higher than secondary school	265	22.0	134	14.7	40	25.8	164	36.3	62	48.8	<0.001
Secondary school	160	13.3	84	9.2	22	14.2	94	20.8	28	22.0	
Primary school	163	13.5	110	12.1	12	7.7	61	13.5	15	11.8	
Illiterate	618	51.2	584	64.0	81	52.3	133	29.4	22	17.3	
Main occupation											
Official/teacher	366	30.3	176	19.3	51	32.9	215	47.6	84	66.1	<0.001
Manual labourer	163	13.5	103	11.3	20	12.9	83	18.4	14	11.0	
Peasant	588	48.8	567	62.2	70	45.2	109	24.1	15	11.8	
No formal job (including business/other/housewife)	89	7.4	66	7.2	14	9.0	45	10.0	14	11.0	
Income satisfactory											
Very satisfactory	85	7.0	61	6.7	15	9.7	74	16.4	16	12.6	<0.001
Satisfactory	417	34.6	203	22.3	53	34.2	205	45.4	77	60.6	
Average	97	8.0	70	7.7	15	9.7	47	10.4	17	13.4	
Poor	607	50.3	578	63.4	72	46.5	126	27.9	17	13.4	
SOCIAL NETWORK SUPPORT AND PSYCHOSOCIAL FACTORS											
Marriage											
Married	889	73.7	627	68.8	109	70.3	349	77.2	94	74.0	0.041
Never married Divorced	46	3.8	49	5.4	5	3.2	11	2.4	5	3.9	
Widow	271	22.5	236	25.9	41	26.5	92	20.4	28	22.0	
Living with											
Spouse only	516	42.8	355	38.9	55	35.5	187	41.4	64	50.4	0.005
Children and/or grandchildren only	166	13.8	153	16.8	30	19.4	64	14.2	15	11.8	
Spouse and/or grandchildren and/or parents	338	28.0	243	26.6	45	29.0	151	33.4	26	20.5	

Others	58	4.8	36	3.9	6	3.9	18	4.0	8	6.3	
No-one	128	10.6	125	13.7	19	12.3	32	7.1	14	11.0	
Visiting children or other relatives											
More than yearly or never	29	2.4	37	4.1	12	7.7	16	3.5	5	3.9	
At least Monthly or less often	131	10.9	106	11.6	19	12.3	60	13.3	21	16.5	<0.001
At least weekly	356	29.5	184	20.2	38	24.5	136	30.1	52	40.9	
Everyday	690	57.2	585	64.1	86	55.5	240	53.1	49	38.6	
Contacting friends in the community											
More than yearly or never	66	5.5	45	4.9	12	7.7	18	4.0	3	2.4	
At least Monthly or less often	252	20.9	248	27.2	38	24.5	133	29.4	29	22.8	0.014
At least weekly	471	39.1	321	35.2	61	39.4	153	33.8	49	38.6	
Everyday	417	34.6	298	32.7	44	28.4	148	32.7	46	36.2	
Contacting neighbours											
More than yearly or never	34	2.8	26	2.9	8	5.2	13	2.9	5	3.9	
At least Monthly or less often	312	25.9	278	30.5	47	30.3	171	37.8	33	26.0	<0.001
At least weekly	453	37.6	276	30.3	53	34.2	142	31.4	49	38.6	
Everyday	407	33.7	332	36.4	47	30.3	126	27.9	40	31.5	
Help available when needed											
No	65	5.4	77	8.4	7	4.5	29	6.4	1	0.8	0.003
Yes	1141	94.6	835	91.6	148	95.5	423	93.6	126	99.2	
CVD AND RISK FACTORS											
Hypercholesterolemia											
No	1142	94.7	881	96.6	136	87.7	383	84.7	98	77.2	<0.001
Yes	59	4.9	26	2.9	18	11.6	61	13.5	27	21.3	
Unknown‡	5	0.4	5	0.5	1	0.6	8	1.8	2	1.6	
Heart diseases (ischaemic, valve disease or others)											
No	1064	88.2	829	90.9	122	78.7	330	73	79	62.2	<0.001
Yes	138	11.4	77	8.4	32	20.6	120	26.5	48	37.8	
Unknown‡	4	0.3	6	0.7	1	0.6	2	0.4	0	0	
Diabetes											
No	1151	95.4	878	96.3	149	96.1	399	88.3	110	86.6	<0.001
Yes	54	4.5	31	3.4	5	3.2	50	11.1	17	13.4	
Unknown‡	1	0.1	3	0.3	1	0.6	3	0.7	0	0	
Activity of daily living (score)											
0	1135	94.1	844	92.5	144	92.9	404	89.4	116	91.3	
1-4	37	3.1	39	4.3	6	3.9	34	7.5	7	5.5	0.033
⩾5	34	2.8	29	3.2	5	3.2	14	3.1	4	3.1	
Depression and dementia status											
No	935	77.5	653	71.6	113	72.9	345	76.3	104	81.9	
Depression subcase	37	3.1	33	3.6	8	5.2	14	3.1	4	3.1	
Depression case	45	3.7	45	4.9	4	2.6	15	3.3	3	2.4	0.210
Dementia subcase	105	8.7	114	12.5	16	10.3	47	10.4	11	8.7	
Dementia case	84	7.0	67	7.3	14	9.0	31	6.9	5	3.9	

*P-values in the chi-square test are based on data available, i.e. not including missingness; †Waist circumference Action Level 1 cut offs = 94 cm in men, 80 cm in women; Action Level 2 = 102 cm in men, 88 cm in women; ‡The number (%) of missing data for smoking status were 455 (16.0%), hypercholesterolemia 21 (0.7%), heart disease 13 (0.5%), and diabetes 8 (0.3%).

Supplement 2. Methods of calculating the numbers of stroke cases that could be prevented by the degree of reduction in the proportions of individuals with hypertension in China.

$$
\begin{aligned}
&[N\times (1- P) \times I + \\
&\ N\times P\times (1\text{-}RD) \times HRD \times I + \\
&\ N\times P\times RD\times (1\text{-}RT) \times HRT \times I + \\
&\ N\times P\times RD\times RT\times (1\text{-}RC) \times HRC \times I + \\
&\ N\times P\times RD\times RT\times RC \times I\ ] -
\end{aligned}
$$

$$
\begin{aligned}
&\{N\times (1 - P \times (1 - rp)) \times I + \\
&\ N\times P\times (1 - rp) \times (1\text{-}RD) \times (1 - rd) \times HRD \times I + \\
&\ N\times P\times (1 - rp) \times RD \times (1 + rd) \times (1\text{-}RT) \times (1 - rt)\times HRT\times I + \\
&\ N\times P\times (1 - rp) \times RD \times (1 + rd) \times RT\times (1 + rt) \times (1\text{-}RC) \times (1 - rc) \times HRC \times I +
\end{aligned}
$$

$$
\begin{aligned}
&\ [(1 - rp) \times N\times P - \\
&\ \ N\times P\times (1 - rp) \times (1\text{-}RD) \times (1 - rd) - \\
&\ \ N\times P\times (1 - rp) \times RD \times (1 + rd) \times (1\text{-}RT) \times (1 - rt) - \\
&\ \ N\times P\times (1 - rp) \times RD \times (1 + rd) \times RT\times (1 + rt) \times (1\text{-}RC) \times (1 - rc)\ ]\times I\ \}
\end{aligned}
$$

N: Population in China with age ≥20 years
P: Prevalence of hypertension
I: Incidence of stroke
RD: detected rate
RT: treated rate
RC: controlled rate
HRD: HR for undetected
HRT: HR for untreated
HRC: HR for uncontrolled
rp: reduction rate in hypertension
rd: reduction rate in undetected
rt: reduction rate in untreated
rc: reduction rate in uncontrolled

Explanation

Numbers of current stroke cases

$$
\begin{aligned}
&[N\times (1- P) \times I + \\
&N\times P\times (1\text{-}RD) \times HRD \times I + \\
&N\times P\times RD\times (1\text{-}RT) \times HRT \times I + \\
&N\times P\times RD\times RT\times (1\text{-}RC) \times HRC \times I + \\
&N\times P\times RD\times RT\times RC \times I\ ]
\end{aligned}
$$

Stroke cases caused by those without hypertension: $N\times (1- P) \times I$
Stroke cases caused by those undetected hypertension: $N\times P\times (1\text{-}RD) \times HRD \times I$
Stroke cases caused by those untreated hypertension: $N\times P\times RD\times (1\text{-}RT) \times HRT \times I$
Stroke cases caused by those uncontrolled hypertension: $N\times P\times RD\times RT\times (1\text{-}RC) \times HRC \times I$
Stroke cases caused by those controlled hypertension: $N\times P\times RD\times RT\times RC \times I$

Numbers of stroke cases if reductions considered

$$\{N\times (1-P\times(1-rp))\times I+$$
$$N\times P\times (1-rp)\times (1-RD)\times(1-rd)\times HRD\times I+$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times (1-RT)\times(1-rt)\times HRT\times I+$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times RT\times(1+rt)\times(1-RC)\times(1-rc)\times HRC\times I+$$

$$[(1-rp)\times N\times P-$$
$$N\times P\times (1-rp)\times (1-RD)\times(1-rd)-$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times (1-RT)\times(1-rt)-$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times RT\times(1+rt)\times(1-RC)\times(1-rc)]\times I\}$$

Stroke cases caused by those without hypertension if reductions considered: $N\times (1-P\times(1-rp))\times I$

Stroke cases caused by those undetected hypertension if reductions considered: $N\times P\times (1-rp)\times (1-RD)\times(1-rd)\times HRD\times I$

Stroke cases caused by those untreated hypertension if reductions considered: $N\times P\times (1-rp)\times RD\times (1+rd)\times (1-RT)\times(1-rt)\times HRT\times I$

Stroke cases caused by those uncontrolled hypertension if reductions considered: $N\times P\times (1-rp)\times RD\times (1+rd)\times RT\times(1+rt)\times(1-RC)\times(1-rc)\times HRC\times I$

Stroke cases caused by those controlled hypertension if reductions considered:

$$[(1-rp)\times N\times P-$$
$$N\times P\times (1-rp)\times (1-RD)\times(1-rd)-$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times (1-RT)\times(1-rt)-$$
$$N\times P\times (1-rp)\times RD\times (1+rd)\times RT\times(1+rt)\times(1-RC)\times(1-rc)]\times I$$