Background: Cardiovascular diseases are the leading cause of death in rural China. High blood pressure caused by excessive sodium consumption has been identified as an important modifiable risk factor. An effective low cost population-based strategy to reduce sodium intake in rural China has significant public health potential.

Methods: The study is a large-scale, cluster-randomized trial done in five Northern provinces in China. Two counties have been selected from each province and 12 townships enrolled from each county making a total of 120 clusters. One village from each township was selected for participation and randomized to intervention or control with stratification by county. The 60 control group villages received no intervention and simply continued with their usual practices. The 60 intervention villages received general community health education advising reduced salt intake, specific health education targeting salt reduction messages to patients at high risk of cardiovascular diseases, and a food supply strategy designed to promote the sale of a reduced sodium added potassium salt substitute through the village convenience stores. The 60 intervention villages were further randomised into two equal groups, such that 30 villages had access to salt substitute at a price parity with normal salt and 30 had salt substitute available at market price (about twice the cost of normal salt). The intervention was implemented for 18 months. An age and sex-stratified random sample of 2400 men and women from the 120 villages (20 from each village) were selected at the end of the intervention period for outcome evaluation. The primary outcome is 24-hour urinary sodium and secondary outcomes are blood pressure, 24-hour urinary potassium, urinary sodium:potassium ratio and the proportion with hypertension.

Results: Data have been collected as planned and are currently being analyzed. Results for the primary and secondary outcome measures will be reported.
Conclusions: The study has successfully completed the implementation and evaluation of a novel, practical, scalable strategy for vascular disease prevention in rural China. The findings will have significant implications for health policy.