The Impending Cardiovascular Pandemic in China

Sidney C. Smith, Jr, MD; Zhi-Jie Zheng, MD, PhD

Cardiovascular diseases (CVD) are increasingly an urgent and major global public health problem. As the leading cause of death, disability, and health expenditures in the world, CVD claimed more than 17 million deaths in 2004, including 7.2 million from coronary heart disease (CHD) and 5.7 million from stroke.1 More than 80% of the mortality from CVD occurs in low- and middle-income countries where dramatic increases in the prevalence of risk factors for atherosclerotic vascular disease, largely due to changes in diet, exercise, and tobacco use are occurring in the setting of increased urbanization of the population. Unfortunately, the health care systems and resources in these countries are not well developed and directed toward dealing with this growing health care burden.

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The opinions expressed in this article are not necessarily those of the editors or of the American Heart Association.

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These observations and predictions and the challenges facing China are not unique. A similar rapid rise of CVD and associated risk factors is occurring in all low- and middle-income countries as they go through the epidemiological
transition. The predictions in the present study call to ques-
tion whether population or community based initiatives to
prevent CVD in China can be successful. Arguably, the best
example of such an intervention is the North Karelia study
in Finland. The North Karelia Project was launched in 1972 in
response to what was then one of the highest mortality rates
from CVD in the world. Over 25 years, smoking among men
to fell from 52% to 31%. Major dietary changes resulted in
marked reductions in saturated fat exemplified by reduction
in the use of butter on bread from 90% to less than 7%. As a
result of this community based CVD prevention program the
annual CVD mortality rate for men below age 65 years has
been reduced by 73%, with similar reductions in mortality
among women. A major factor leading to the success of the
North Karelia Program was community organization. Thus,
effective strategies in low- and middle-income countries may
involve not only major government initiatives in population-
based prevention but also strong community efforts and
collaboration to foster environments that promote and support
cardiovascular health. In addition, experience in the United
States and Western Europe has also demonstrated improved
outcomes associated with the use of evidence-based guide-
lines for management of CVD and patients with high CVD
risks. Likewise, guideline-related initiatives in prevention
such as the BRIG project now underway in China have
potential to contribute to similar improved CVD outcomes.

The World Heart Federation has outlined principles for
national and regional guidelines for CVD prevention that
outline essential concepts to assist with the development of
guideline-related programs for CVD prevention.

As the Institute of Medicine pointed out in its recent report,
prevention and better control of CVD worldwide, particularly
in low- and middle-income countries, requires coordinated
global and local actions to provide sustained efforts, strong
leadership, stakeholder collaborations, and substantial invest-
ment of financial, technical, and human resources.

China now finds itself facing a major crisis with the
predicted increase mortality and morbidity from CVD. With
the largest population in the world, this poses a major
challenge to the developing economy. Yet the crisis and its
associated challenge bring tremendous opportunity. That
opportunity is to institute programs in prevention such as
those recommended by the authors of the article in this issue of
Circulation: Cardiovascular Quality and Outcomes. In
fact, China is moving in the right direction, as major
prevention programs are being implemented that target rais-
ing public awareness, educating and empowering the popu-
lation, and strengthening health care systems to better manage
CVD risk factors, such as tobacco smoking and hypertension.
Possibly such programs could be integrated into the recently
announced health care reform by the central government
which commits to provide universal affordable health care to
1.3 billion citizens. One hopes that China will meet this
challenge and succeed. If so, they will serve as an example for
the majority of countries in the world now facing the
pandemic of CVD.

Disclosures

None.

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